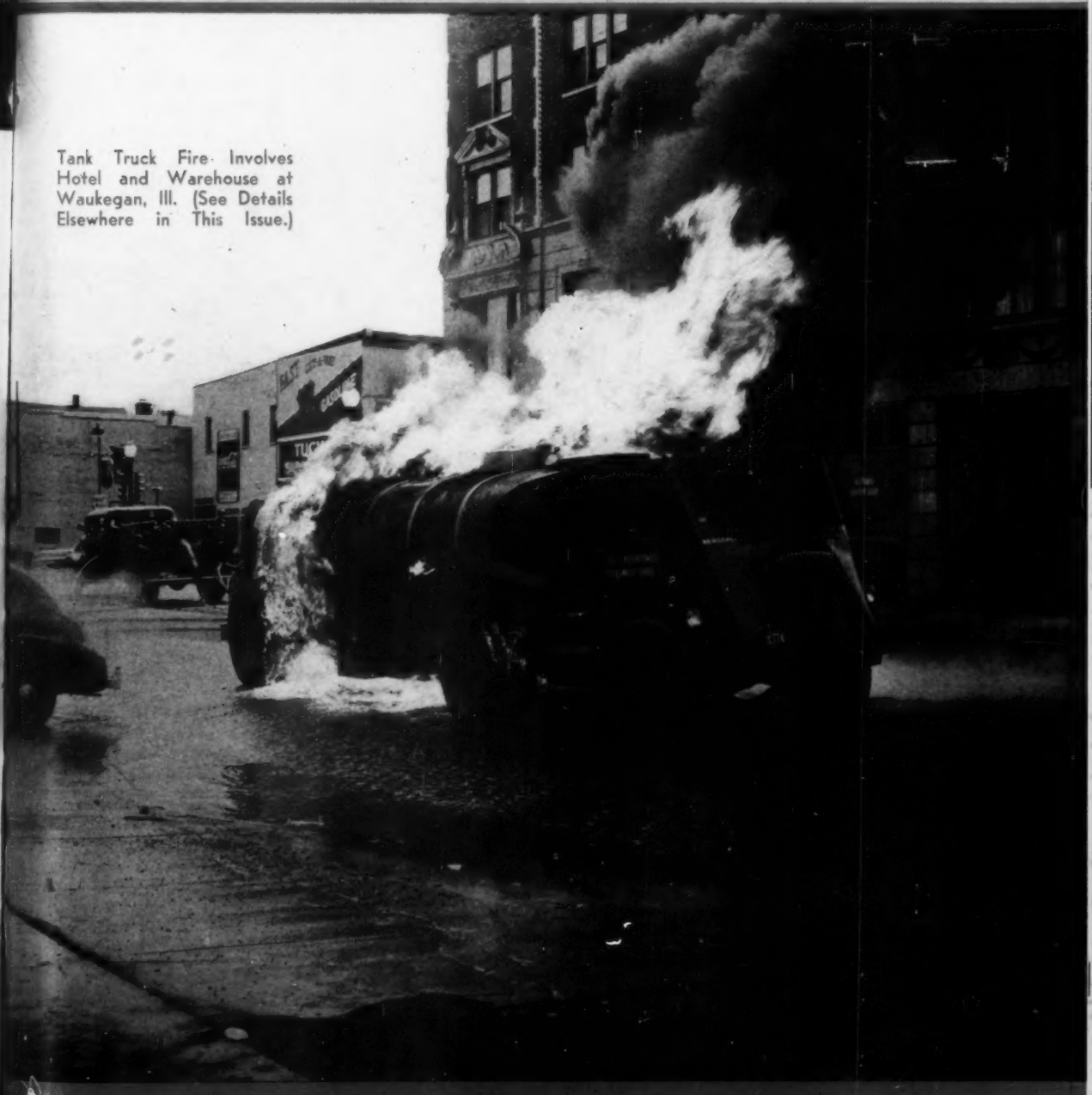
# FIRE ENGINEERING

OHIO STATE UNIVERSITY
NOV 26 19

*The Journal of the Fire Protection Profession Since 18[illegible]7*

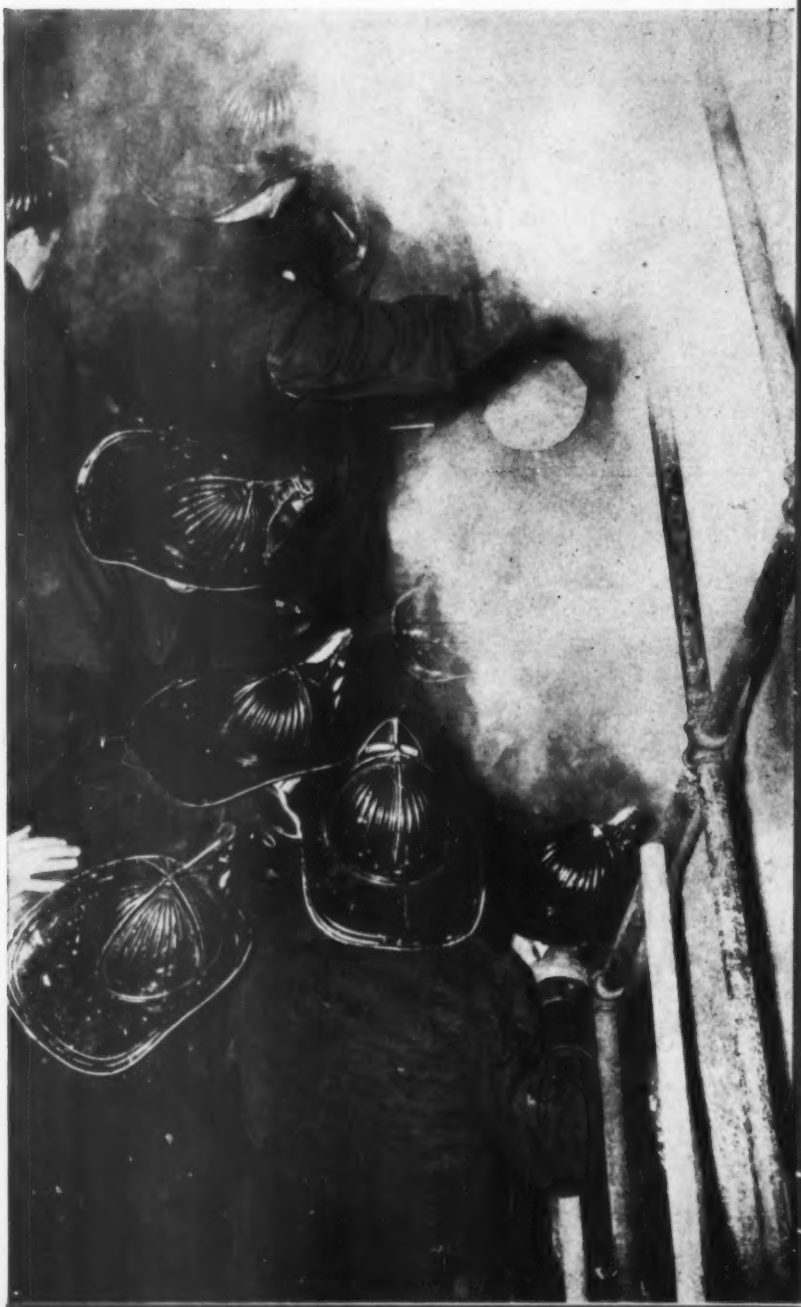
NOVEMBER, 1947



Tank Truck Fire Involves Hotel and Warehouse at Waukegan, Ill. (See Details Elsewhere in This Issue.)

A CASE - SHEPPERD - MANN PUBLICATION

# RESUSCITATOR
# EMERSON



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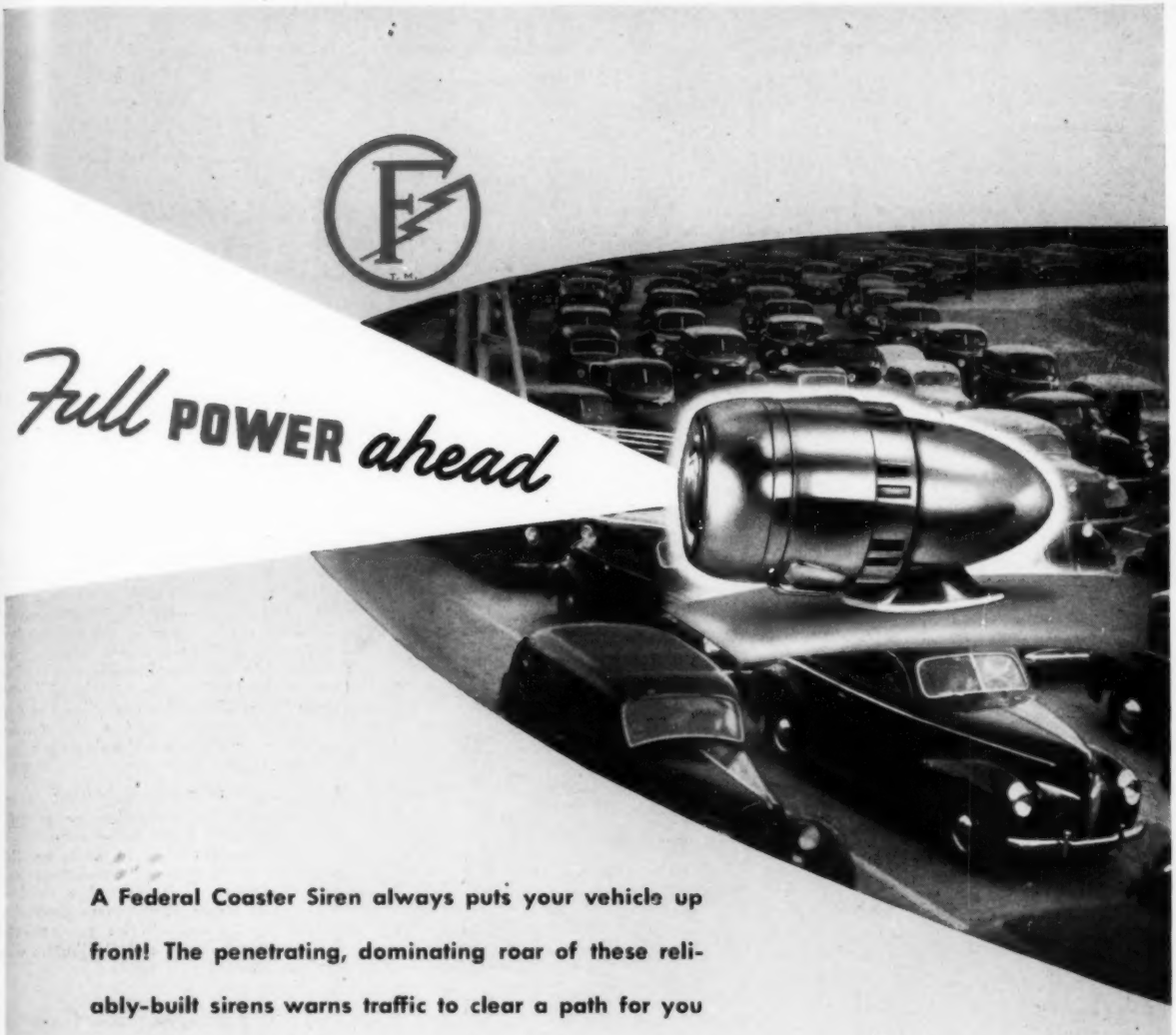


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# FIRE ENGINEERING

*A Consolidation of* FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

## Too Little—Too Late

SEND us fire fighting equipment—pumps, hose, shovels, anything!—was the plea heard over and over again during the fateful days of the recent New England forest fires.

● And help came—by plane, boat, truck and train. But—too little—and too late. Hose by the mile . . . pumps by the carload . . . extinguishers by the thousand! But—threads that didn't fit!—pumps that couldn't be turned over!—and, for extinguishers—many of them were war emergency stirrup pumps, valueless for forest fire-fighting!

● Too little and too late!

● The big question is, how well has America learned this lesson of preparedness? We believe the lesson will stick—and for a long time. And the net result will be increased interest in, and increased orders for, modern fire-fighting facilities of every kind and description. As part proof, we learn that less than one week after the trial by fire, five companies in Portland alone placed orders for sprinkler systems, and a dozen New England communities are drawing up specifications for new apparatus.

● This month FIRE ENGINEERING brings its readers the first comprehensive account of New England's costly catestrophe. Next month the editors plan to continue this story, with a summary of conclusions and recommendations. This November number, and those to follow, should make profitable reading for the nation's fire service—and all those manufacturers and distributors who serve it.

*The Publishers*

**FIRE ENGINEERING**

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### *Check* these Features!

- √ One-piece, high pressure molded of laminated bakelite
- √ Tremendous resistance to fracture
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- √ Can't soften, swell or gain in weight
- √ Reinforcing crown ridge
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Better head protection and easy wearing comfort ride with the fireman on every run—stay with him on the job, and serve him every minute—when he wears the M.S.A. Streamlined Fireman's Helmet. This most popular modern helmet's correct proportions and streamlined design deflect the force of blows and bumps, keep hot water and embers from face and neck, add smartness on parade. Heat and moisture cannot soften or deteriorate the highly fracture-resistant shell. Write for the facts in Bulletin DX-5!

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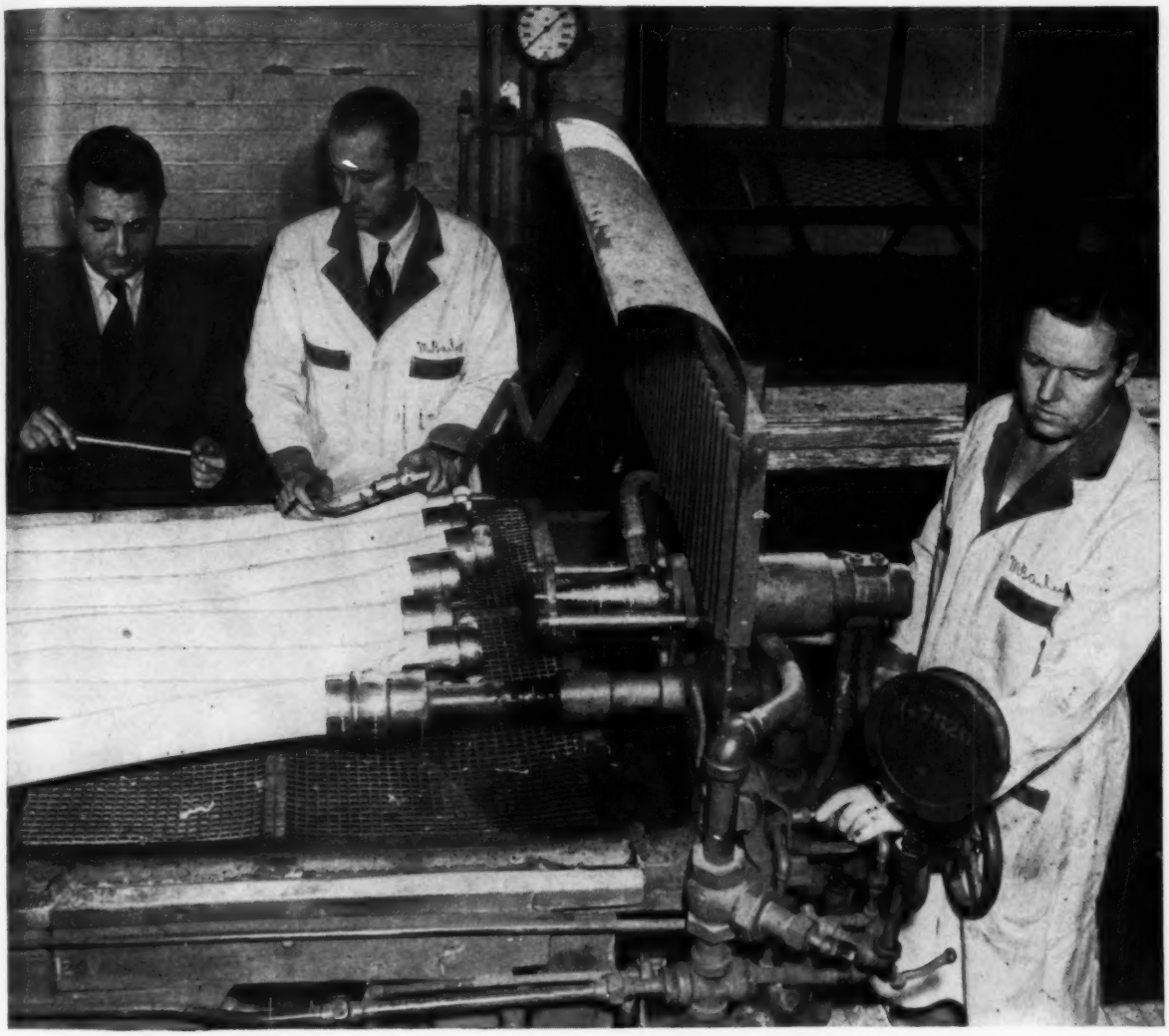

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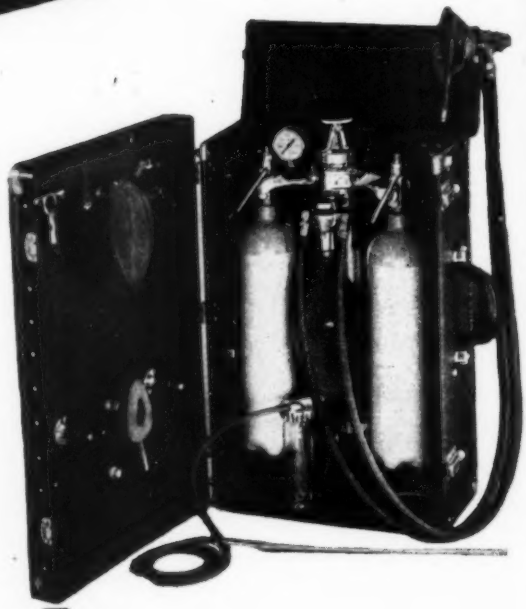
*This is just one of the many miraculous successes with the E & J Resuscitator, since installed by Chief George E. Jacob of the Canton Fire Department.*



E & J Resuscitators have been adopted by Fire Departments and Emergency squads from coast to coast. Sound evidence and good reason why you, too, should be E & J equipped.

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# ANNOUNCING

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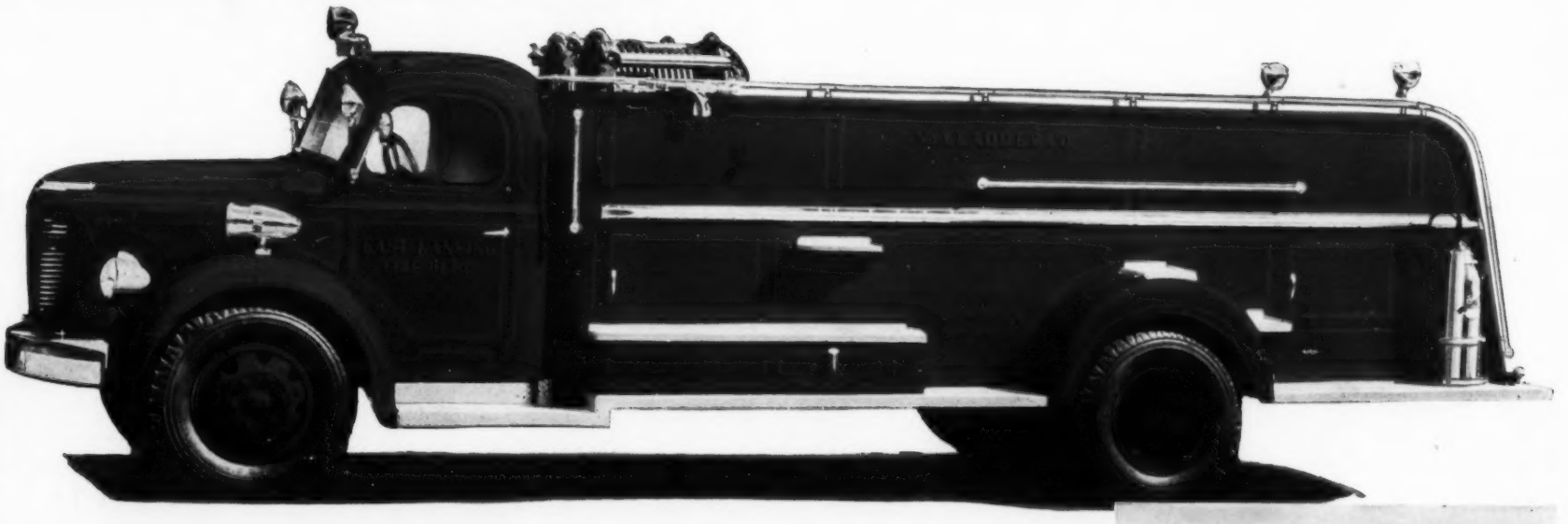

This double-duty unit combines high-pressure fog and ladders *in one truck.*

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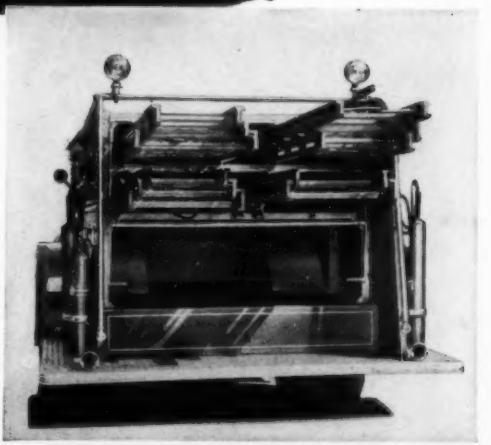

**FMC** *Original* **HIGH-PRESSURE FOG FIRE FIGHTER**

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They put out fires in a hurry! If required, the entire contents expanding to 450 times stored volume, can be discharged within 25 seconds. You'll like these handy, quick-acting Alfco Extinguishers, their ease of operation, their fast discharge of a lot or a little of carbon dioxide gas as needed.

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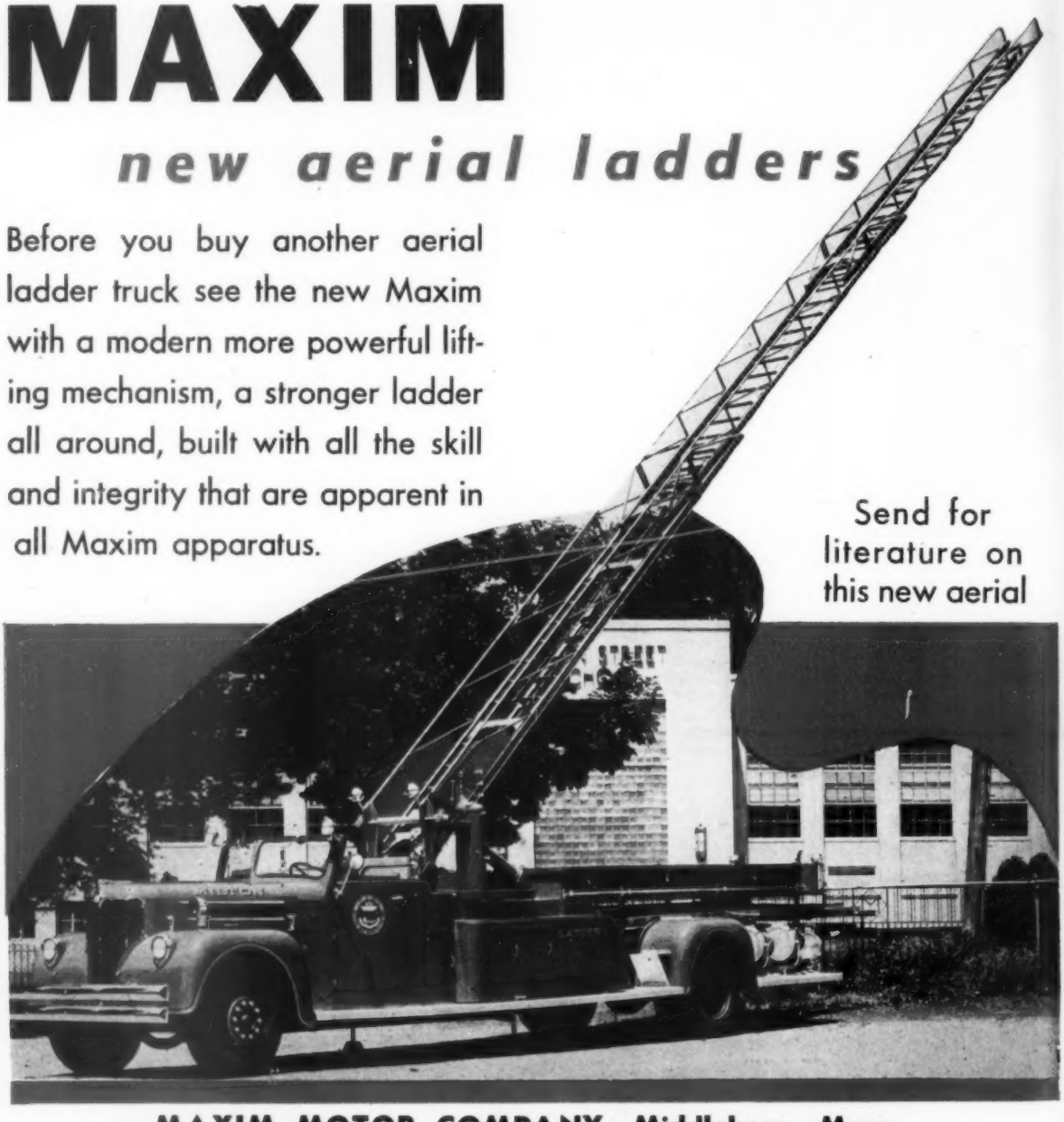

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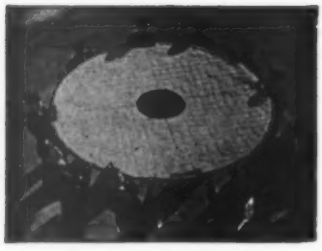
# IN THE FIRE SERVICE THERE'S NOTHING "JUST AS GOOD"



The best there is—is none too good for the fire service. To "shop for price" in buying fire apparatus or equipment is equivalent to trying to save water at a fire. Buy the best the market affords—particularly when it comes to life nets. Don't gamble a few dollars when life is the stake. Don't let anyone talk you into saving a few dollars on equipment "just as good," remember, it takes *good men* and *good equipment* to make a good fire department. ATLAS LIFE NETS are the finest money can buy.

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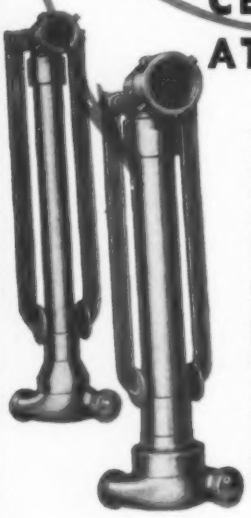
How to put out cellar and attic fires easier, faster and with less water...

NEW ROCKWOOD LIGHTweight WaterFOG CELLAR and ATTIC PIPE



This new type Rockwood WaterFOG Cellar Pipe is a remarkable new fire fighting tool that will fill large areas with fine fog particles that absorb heat, fumes and smoke more thoroughly and rapidly than is possible with multiple small streams or coarse spray. The light weight and design of this unit offers your firemen easier handling and greater protection against fire and fumes in fighting cellar fires — one of the toughest types of fire a fireman must face.

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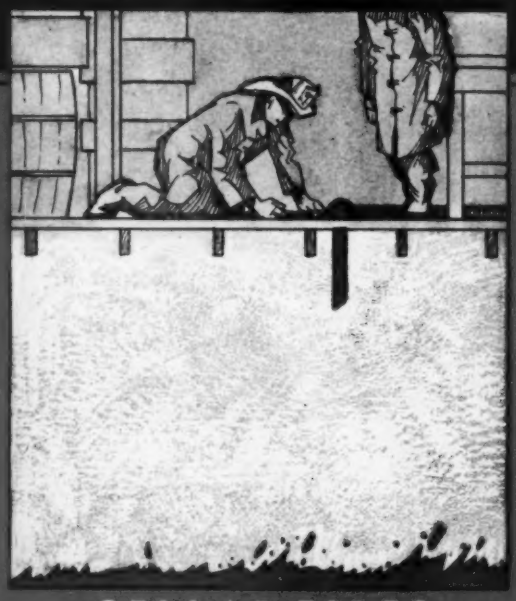
Write for prices and additional information.



CELLAR FIRES

ATTIC FIRES

- New WaterFOG head
- Rotates freely without vibration (equipped with thrust bearings)
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- Fights fires in cellars and attics, under piers and bridges, etc.

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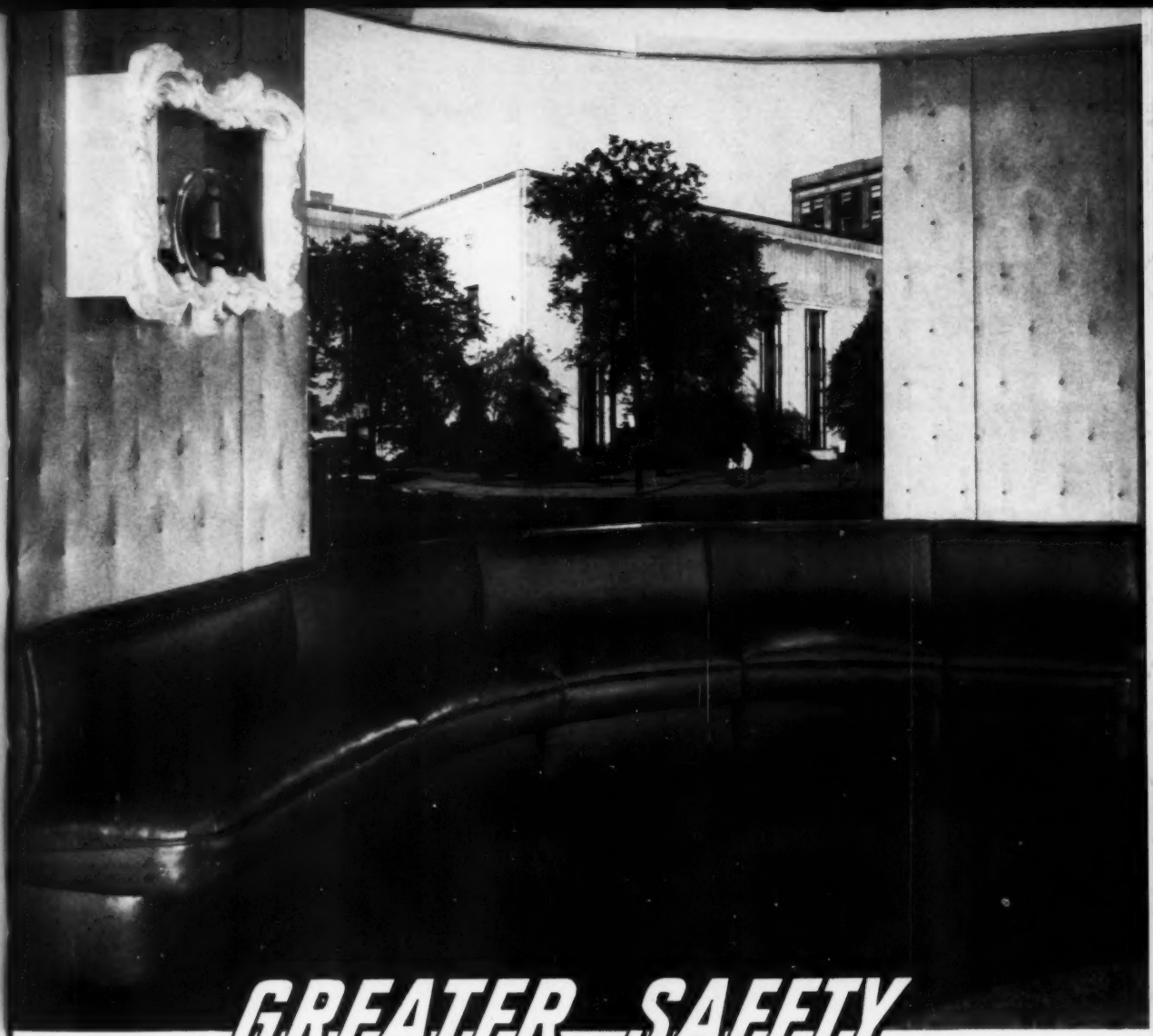
*Specialists in Fire Protection Engineering, Equipment and Installation since 1907*



# GREATER SAFETY

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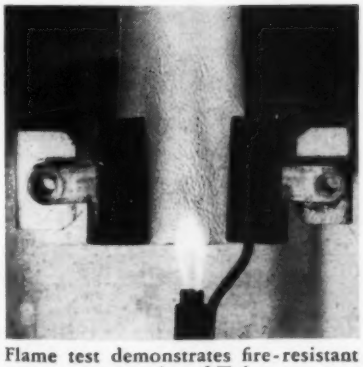

Flame test demonstrates fire-resistant properties of Tolex.

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*Skill to do comes of doing.*
*—Emerson*

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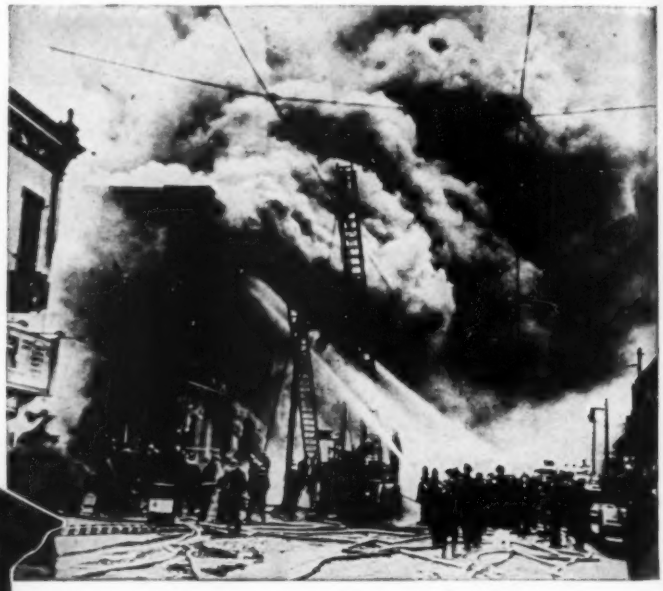

## WHEN FIRE OCCURS—

## PULL A FIRE ALARM BOX IMMEDIATELY!

**"It is generally recognized that there is no other thoroughly satisactory means of sending and receiving fire alarms than an approved fire alarm telegraph system. Telephones should not be relied upon to replace needed boxes nor to supplement any inadequacy in number or location of boxes."**

**—National Fire Protection Association**

***DETAILED INFORMATION ON REQUEST***

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NEWTON UPPER FALLS 64, MASSACHUSETTS

FIRE ENGINEERING

NOVEMBER, 1947 VOL. 100. NO. 11

# With the Editor

**Pitchfork Preparedness**

Back in Revolutionary War Days, we are told, some tub-thumper, decrying warnings that the nation prepare for conflict, said in effect: Let the enemy come, and a million patriots armed with pitchforks will toss the invaders into the ocean.

From the days when our forefathers first realized the need for protecting our natural resources against the ravages of fire, we as a nation, have been as singularly complacent and indifferent to what might (and in too many cases did) eventuate, as was our progenitor with the pitchforks.

Despite the fact that we have been burning over national forest acres at the rate of 230,000 annually, not to speak of our destruction in other forests and field areas, and in the face of repeated warnings by foresty and fire control authorities, what have we done? Not only have we turned a cold shoulder on most of these warnings, but we have further invited catastrophe, by buttoning up our pocketbooks and battening down our fire defense budgets, at the very time when we should be spending more to save more!

It becomes increasingly evident there were no plans, no programs of defense against the disaster that portended almost from the beginning of the drought. When roaring fires struck, they had to be met by a shortage of trained fire fighters and of modern fire control equipment. There just weren't enough facilities to go around.

Existing laws and ordinances supposed to safeguard forest and field against fire were being ignored, if not openly flouted, by the very persons they were supposed to protect. War emergency legislation including mutual aid setups, generally effective during World War II, had been permitted to go by the board since V-J Day. Civilian Defense fire fighting equipment for the most part was wrapped in red tape and either left to rust in municipal storerooms, or in widely scattered government warehouses. When, on urgent appeals from hard-pressed New England districts, these supplies were dug out of storage and flown to the stricken areas, much of it was found totally unsuitable and unusable because of wrong threads, or missing parts, or just plain functional failure.

One might have thought there would be ample supplies of such mundane equipment as shovels, rakes and axes, yet the air was filled with anguished broadcasts for more and more such facilities, together with trucks, bulldozers, tankers, as well as hose and other fire fighting appurtenances.

Further, it was bad enough to have to labor with insufficient and inefficient resources, but it was worse to have to entrust such as was available to untrained, inexperienced persons on the fire lines. The fact that casualties were not much greater than they were is remarkable! You can't take army enlisted men, most of whom have never smelled more than burning leaves in their front yard, fly them a thousand miles into strange terrain, hand them a broom or shovel, send them out to control raging fires, and expect the best results.

All this is intended as no discredit to the Army, Navy and Coast Guard whose personnel, thrown into the breach, acquitted itself nobly, notwithstanding the handicaps under which men labored. Nor can one but praise the forestry services, Federal, State and local.

With all credit to the efficacy of prayer for rain, we suggest that a little bit of supplication might be directed toward expiating our sins of omission and commission—our pitchfork preparedness—and preventing once and for all time a repetition of this tragedy, by setting in motion new machinery to strengthen our fire control forces, all along the line.

Fred. Oberfell

# Ravaging Forest Fires Emphasize Need of Improved Fire Control

## Early Reports on East's Costliest Forest Fires Offer Lessons for the Fire Service

By ROI B. WOOLLEY

**Editor's Note: Hard on the heels of Fire Prevention Week, the nation's fire losses skyrocketed to a new high with the week-long October forest and field fires in the Eastern section of the country.**

**As this is written the tragic toll in life and property loss is being revised upward, hourly. Already the reports from Fire Engineering's correspondents and its readers indicate that the week ending October 26, 1947, will go down in fire service history as the period of greatest travail ever faced by fire protection forces in New England.**

**This disaster, following so closely the devastating fires on the Pacific Coast and the widespread promotion of Fire Prevention Week, has shocked not only this nation, but a hungry world that is looking to America for succor. It is of so great magnitude that it is difficult to sift from the mass of reports, rumors and gossip of press and radio, the fundamental facts.**

**In the effort to arrive at these fundamentals, the editors have deliberately sacrificed the thrilling and dramatic aspects of the news accounts for those factors which, we hope, will mean more to those who look to this journal as the measuring stick to guide them in evaluating their own forest fire control measures and facilities.**

CHARACTERIZED as the worst forest fires in the history of New England, a series of conflagrations which raged between October 20 and 27 caused the deaths of twenty-two persons, with fifteen missing; an estimated property loss of between $30 million and $40 million, exclusive of the cost of irreplacable timber and the expense of fire control operations to Federal, State and local governments. Other fires claimed lives and destroyed woods, dwellings and other structures in New York, New Jersey, Pennsylvania, West Virginia and Michigan.

Maine, hardest hit of the states, suffered losses estimated by its Gov. Horace A. Hildreth "in excess of $32 million with thirteen dead, many missing and uncounted numbers injured." Figures released by the Red Cross for Maine alone are: homeless, 2,500; permanent homes destroyed 836 (many of them mansions of the wealthy Bar Harbor summer residents); summer homes, 220, displaced persons, about 3,500. Eight Maine communities were wholly or partially wiped out.

Damage to the once fashionable summer resort town of Bar Harbor, on Mount Desert Island was estimated at more than $10 million, about 300 year-round dwellings and 60 estates being leveled by the fires which burned six days before being controlled. Approximately 2,200 of its citizens were evacuated under most trying conditions during the height of the blaze that, sweeping down from Cadillac Mountain, highest wooded point on the New England coast, consumed most of the town, including all its large hotels; only the major part of the business district was saved.

### Small, Scattered Fires Become Conflagrations

In the New England area, scores of small fires which, under normal weather conditions could have been controlled, rapidly got out of hand during the period October 19 and 20, swept by variable winds to consume everything in their path. The more serious of these fires started in the Kennebunkport-Biddeford area; in the Arcadia National Forest on Mount Desert Island, and at Centerville in Washington County, Maine. Another blaze near Hempstead, New Hampshire and several in Massachusetts early proved threatening.

The worst of the holocausts occurred between Biddeford, Maine and the Atlantic Ocean, where a forest fire which started on the 19th and died down the 20th reflashed to new life that night. Driven by a 35-mile shifting wind, it raced back and forth over a 9-mile area running north from Biddeford, south to Kennebunk Beach, thence over the Biddeford Pool, finally engulfing the little shore settlements of Cape Porpoise and Goose Rocks.

With this and the Mount Cadillac conflagrations, and new fires being reported almost hourly, Maine's Gov. Horace Hildreth ordered out units of the National Guard (at 7:00 P. M. October 21) to aid in evacuating frightened residents and assist fire fighters, 2,000 of whom could not confine the flames in the Kennebunk area.

The fire which swept toward Kennebunkport Village after destroying a reported 200 dwelling places, most of them summer cottages, at Goose Rocks, Cape Porpoise and the Wildes district, was halted before it could enter the town, with the assistance of fire fighters rushed to the scene from communities as far away as Portland.

**Fire Marches On!—Above and Below the Bone Dry Trees**

This fire in North Jersey woodlands near Oakland—one of eleven serious blazes reported in state October 21, is typical of those that ravaged New England. Note separate crown and ground fires, the latter advancing against the wind.

**This Was Once a Vale in Beautiful Bar Harbor**

Cooling the ruins of one of the scores of fine homes "written off" by fire. Here the fire evidently communicated house-to-house.

At East Livermore, fire swept the Methodist Association of Maine summer camp, destroying 50 cottages, a summer school, church, then leveled some year-round residences and farm houses with attached barns.

On Mount Desert Island one finger of fire swept through the Arcadia National Park forest's mixed hardwood timber and down Cadillac Mountain toward Bar Harbor, while another pointed toward Seal Harbor. Aided by troops from Dow Feld Army Base and firemen from Bangor, Brewer, Ellsworth and all communities on Mount Desert Island, it was at first hoped by Fire Chief David A. Sleeper of Bar Harbor that these fires could be controlled, but shifts in the wind swung the consuming blaze into the town itself where, feeding on the stately, tinder-dry trees, and the large summer hotels and mansions, it practically surrounded the town proper, at one point cutting the road that led to the connecting causeway to the mainland.

## The Dunkerque of Bar Harbor

On the night of October 23 the advancing fire had cut off the escape of between 3,000 and 4,000 residents of the town of Bar Harbor. Prevented from reaching the mainland by highway, with the immediate prospect of the fire razing the small business section, which leads to the dock, calls for help were sent out by the town's police chief and other authorities. These ceased when the telephone exchange was evacuated at 6:15 P. M. and all power went off. Previously, the Mount Desert government radio station had gone out of commission. With the loss of power, no communications remained.

Alerted by the appeals, and by warning messages flashed by airmen who flew over the burning area, urgent orders were sent by the Navy and Coast Guard to warships and cutters to proceed at top speed to Bar Harbor to evacuate those in danger. At the same time, a Dunkerque-like evacation by small boats, between the Island and the mainland took place.

The evacuation was temporarily stopped later when it was learned that an escape route by highway had been opened up. The exodus was then renewed, chiefly by motor vehicles, rushed across from the mainland. Over 400 seaborne evacuees were reported to have reached Gouldsboro on the shore of Frenchman's Bay. These, and other evacuees were later removed to Ellsworth.

A small army of fire fighters, aided by continuing reinforcements remained on the Island in a desperate effort to save the business section. Meanwhile in Brownfield, Maine, near Fryeburg, fifty homes were reported destroyed as fire raced south to Hiram, six miles distant. In Bedford, as another fire threatened, occupants of Trull and Webber Hospitals were hastily removed, late on the 23rd.

In Massachusetts, where a number of the state's 100 and more fires had gone out of control, nearly 100 patients, including children in wheel chairs were evacuated from the North Reading State Tuberculosis Sanitarium as choking smoke from an approaching forest fire entered the hospital. This fire was part of a fast spreading blaze that razed several farm buildings as it sped toward the Martin Pond colony in North Andover, despite efforts of a small army of firemen and volunteers to hold it. Another roaring fire threatened the town of

**Raging Maine Fire Cuts Nation's Highway 1**

Fire in bone-dry woods near Biddeford, Me., October 20, crosses U. S. Route 1, main artery through New England.

Rockport. Fire fighters were also busy at Gloucester, Annisquam, Fitchburg, Ashby, Mt. Tom in Holyoke, Quincey and Medford.

In New Hampshire, Forest Fire Rangers called for aid to control a blaze threatening the 710,000-acre White Mountain National Forest; the worst blaze, however, developed in the Rochester area where that city of 16,000 was in the path of a fast-moving major conflagration which wiped out about fifty homes and then worked its way into the city itself. Ultimate damage in this section was estimated at about $1 million.

Over 500 acres were burned out by a fire which raged near Hempstead. It

**Flying in Gear for Hard Pressed Forest Fire Fighters**

The airplane proved invaluable in the October holocausts to transport reinforments, observe and report on fire conditions, and aid in communications and evacuation. This equipment was used to control the blaze on Shawangunk Mountain, N. Y., shown in background.

was estimated that approxmiately 100 homes were destroyed in New Hampshire in addition to farm buildings, small commercial and industrial plants. Total losses are as yet unreported.

## New York Closes Woods

With thirty-one new forest and brush fires reported in New York State on October 20th, Governor Thomas E. Dewey extended to all the state's woodlands his original forest-fire proclamation closing the Adirondacks to recreational use.

A threatening fire that began on the night of the 20th near Lake Sapphire burned over two miles, West of Route 17, before being controlled by firemen and rangers.

According to the State Conservation Department, 296 fires had occurred in the state since October 11. Of these, 267 had been extinguished by October 22 and twenty-seven were under control. Two raged out of control while crews stood by at fifteen others. The most serious blaze was at Fort Ann in Washington County. The fire, which started on the 15th, burned deeply into the ground. It was patrolled by 150 men. Another large fire was out of control near Ellenville in the Shawangunk Mountains of Ulster County. Still another hardwood forest fire burned in the Town of Horseheads.

Later in the week, Westchester County suffered a succession of woods and brush fires only one of which, near Somers, was serious. In one period of twenty-four hours the county Fire Control Center, operated by the Fire Chiefs Emergency Plan, handled nearly 200 telephone calls, most of which had to do with the mutual aid movement of fire apparatus and personnel throughout the county. The Somer's fire, after flaring up a second time, was finally extinguished in a three-day battle toward the close of which it is reported some companies used water wetting agents for the first time.

## New Jersey Embattled

Fanned by strong gusts of wind, forest fires that had been burning with varying intensities throughout New Jersey during this period flared anew in four areas, three large fires going out of control.

Weary firemen aided by more than 500 volunteers had struggled through the 22nd and 23rd to control fires in Passaic, Bergen and Morris Counties. In Riverdale a blaze continued unchecked, spreading north on Route 23. Firefighters saved homes and buildings by backfiring brush around the structures. At West Milford a 150-acre blaze went out of control while a serious fire in the Greenwood Lake district was brought under control after a struggle. In the Ramapo Mountain area, north of Oakland, back-firing of the various Boy Scout camps was undertaken during the 23rd to save bungalow and camp buildings from a similar fate to that when two Camp Tamarack bungalows were lost the day previously. Other working fires called out concentrations of firemen, Boy Scouts and other volunteers in Split Rock, in Morris County, West Milford, Millville, and elsewhere.

**You Wouldn't Know the Old Place Now!**

The forest fire that visited Goose Rocks Beach, Me., October 24, has left its calling card. Fire jumped road to engulf summer and year-round homes, despite an ocean of water at right and a small army of fire fighters.

## Costly Rubber Plant Fire Complicates Fire Fighting

On the night of the 23rd, firemen from ten municipalities were called to fight a fire, and its extensions, some of which were three miles from the original blaze, in the Pequanoc Soft Rubber Company of Butler, N. J. Damage was estimated at more than $250,000. It is reported that 14,000,000 pounds of rubber casings, in storage were burned.

This fire began in brush, believed caused by a careless smoker, shortly before 7:00 P.M. Flames leaped skyward 500 feet and more, attracting crowds of curious who hindered operations of firemen, rolling in from Kinnelon, Pompton Plains, Paquannock, Riverdale, West Milford, Little Falls, Preakness, West Paterson and Macopin to aid Butler and Bloomingdale brothers. A number of other companies were alerted for possible need at Butler and Bloomingdale. Sparks and embers from this fire started brush and grass fires over a wide area, most of the aiding fire units being deployed to guard against these extensions. Fire Chiefs James Mabey of Bloomingdale and Lou Guenter of Butler were in charge of operations.

Theatened by shortage of water, watershed officials of the Pequannock Watershed in the City of Newark, ten miles upstream from the fire were asked to increase the water level in the river, which was done.

Several firemen were overcome by smoke. The 35-man plant fire brigade aided in wetting down two additional stock piles that were threatened.

## Fire Fighting Operations on a Gigantic Scale

All reports from the various fire fronts throughout the east, confirm the vast scope and magnitude of the fire suppression operations. These dispatches provide a kaleidoscopic picture of fast-moving fires of all types—below ground, on the ground, and on forest crowns—followed by equally fast-moving fire control forces. At one moment these fighters would be attacking the fire. The next minute, the tables would be reversed, and the firefighters would be hurriedly retreating, perhaps leaving their equipment behind. It was a picture of weary and worn professional and amateur firemen, working side by side to the point of exhaustion; short of water and equipment, food and sleep, but long on determination and fortitude. That more were not killed or injured is considered remarkable, in view of the scope of operations.

The fire control situation was unprecedented and caught fire protection forces unprepared for its magnitude, although from mid-summer people of the area had been warned what might eventuate. There was no over-all state or other plan of action for the emergency. It was largely a case of scores of individual conflagrations being fought by individual group forces, many of which were compelled to hurriedly break off action to return to protect their own communities. Some idea of the size of operations is indicated by the fact

**Bird's Eye View of Bar Harbor Inferno on the March**

Flames eating their way around and through millionaire summer colony of historic Bar Harbor on Mount Desert Island, Me., October 25. Business part of town escaped, but damage was said to be $10,000,000.

that before the town of Reading, Mass., was saved it took the combined efforts of firemen and equipment from twenty communities, aided by an army of volunteers.

In the initial stages manpower was lacking. Repeated calls for volunteer workers in some instances, reports say, fell on deaf ears—until the fires became more of a "personal matter." This apathy was not apparent in the ranks of the fire service, but was found largely in the indifference of local residents.

Where fire fighters were experienced in forest fire control, some excellent stands were made in the face of seeming hopeless conditions. Taking full advantage of the terrain, of wind shifts, and of the scant available water supplies, some almost unbelievable stops were made. Some of the more successful results were accomplished between sundown and sunup, taking advantage of the cooler weather and night moisture. But this kind of fire fighting presented increased dangers of personnel becoming lost, suffering falls and burns, or being trapped by falling timber.

In the absence of water, best results were reported to have come from careful back-firing and cutting of wide fire lanes. Circling out-buildings and other structures by trenching and back-firing saved many. In some places, however, the sheer volume of the fire caused it to leap man-made barriers, out-flanking fire fighters and compelling their rapid retreat.

Reports indicate that in wooded areas, particularly of pine, fir and the like, the fire traveled with amazing speed. In many wooded areas, hot crown fires drove out all fire control forces and after taking off the tops of trees, a following slower-going ground fire completed the destruction. In some instances, fire burrowed deeply into the dried-out duff where it spread, to come to surface at distant points.

The speed with which spreading fires jumped highways, ditches and other barriers forced rapid shifting and reallignment of fire control forces. With inadequate communications and often lack of suitable transportation facilities, together with traffic blocks encountered by the shifting apparatus and emergency vehicles, it is considered remarkable in some areas that the fires were controlled at all.

To offset the lack of local water, firemen and volunteers commandeered all sorts of water-carrying vehicles, oil tankers, milk trucks, sprinkling trucks and milk cans. These improvised conveyances were worked in relays to get water to the fire-lines. Pump-tank extinguishers were in great demand, as were shovels, rakes and all other forestry tools.

Improvisation took form in other ways. When fire jumped the Saco River to threaten Old Orchard Beach, historic summer resort, makeshift "fireboats" were utilized to get at inaccessible blazes along the water's edge. These were rowboats and flatboats, manned by volunteers, armed with packpumps and pump-cans. A Coast Guard boat later was rushed from Portland complete to patroling the river.

## Confusion of Authority?

As might be expected in such involved fire control operations, there were reports of some confusion of authority, or at least, lack of it. This was particularly true in what might be termed "orphan territory", i.e. areas not regularly protected by community or private fire services. Here the state or county rangers or wardens were supposed to have authority, it is said. But because there are not enough of them to go around, or because they could not be located, fire fighters were often left to their own resources. This caused little difficulty where experienced firemen were on the scene, but where details were left to hastily recruited, and inadequately equipped volunteers, the results were unsatisfactory. This was especially true where back-firing was attempted by the uninitiated.

A criticism voiced by one correspondent who was on the scene, was the attempt to take over and direct fire control operations by officers of the military who had no experience whatever in meeting such fire control emergencies. Several reports mentioned an actual or seeming lack of cooperation between the representatives of the armed forces and regular and volunteer firemen. On the other hand, there were many reports of complete cooperation beween the various services. This was evidenced in the Bar Harbor "Dunkerque," and in the speed with which the Air Forces flew reinforcements of personnel and fire fighting and medical equipment into the area.

The evidence also substantiates the value of small hose—and plenty of it—with water fog and the newest scientific extinguishing agent "wet water," in making fast attacks on spreading fire, with maximum conservation of water. Its use, in conjunction with larger hose, where pumping and pumper-relaying operations are carried out, was attested over and over again.

Another wartime development that proved an asset were the small, portable pumps, both the Navy-type "Handy Billy" and the lift, or jet types. These, although insufficient in number, when located at the partly dried streams, water holes and wells, were able to bring almost the last available drop of water into action.

Although no report has been received of inability of the fire forces to use each others' pumpers and hose, because of non-uniformity of hose-threads, it is understood some such difficulties were encountered (in one case, a fire department had discarded adapters it had instituted during the war as an OCD measure).

## Radio Meets the Test

One of the most interesting and enlightening details of the way the catastrophe was met—when all the accounts are in—will be that of communications, in particular, the use of radio.

As in the case of hurricanes, communications facilities are one of the first to suffer in extensive fires such as engulfed Eastern areas.

Many communities, including Bar Harbor, were practically cut off from all wire communications at critical periods of the conflagrations. Even radio failed in places where power supplies were destroyed, or where the marching fires wrecked aerials and antennae.

Radio operations during the period of October 21 to 27 may be grouped under three classifications: broadcast by the local and network radio stations using standard bands; short-wave operations of the radio amateurs or "hams" and finally, short-wave operations by the emergency services, including fire, police and conservation units, public utilities and government agencies.

Undoubtedly, the most noteworthy use of commercial broadcasting was the dramatic appeal of Maine's Governor Horace A. Hildreth on the night of the 23rd, when he broadcast to the state's 500 communities to organize on the basis they did in wartime, through civilian defense, in combating "the greatest economic catastrophe in the state's history." And in more than one case, public broadcasting was used to induce people to mobilize men and fire fighting equipment, motor vehicles for evacuating the homeless and provide shelter, food and clothing for the unfortunates. A Portland radio station, when Biddeford was en-

**Battling the Forest and Field Fire with Bulldozers**

A bulldozer similar to this cleared the vital fire-swept road leading to Bar Harbor's causeway and the mainland, opening the way for safe evacuation of the endangered populace.

**Helicopter Proves a Practical Aid in Forest Fire Fighting**

Here, forest service men brought by helicopter, rush to extinguish a small blaze just getting under way in what would otherwise be an inaccessible location. This type of plane is also used for rescue and aerial observation.

dangered, broadcast appeals asking people to bring food, clothing and fire fighting appliances to Red Cross Headquarters. In Portland, trucks assembled at the Red Cross Headquarters on State street to rush brooms, shovels, gloves and fire fighting kits to Biddeford.

When communications south and west of Portland went dead on the night of the 24th, radio technicians and amateurs set up a short-wave networks which did effective work.

Meanwhile, fire, police and other emergency short-wave radio was being employed to marshal and direct the army of fire fighters, law enforcement officers, national guardsmen and others in the far-flung battle.

Police, with the help of radio, closed many highways and other lanes to all traffic except fire apparatus and other emergency vehicles. In some instances where fire and police used the same radio frequency, there was confusion over priority of use of the broadcast channel, but, in general, fire calls got the green light.

When it was first feared that fire would destroy the Burbank Hospital in Reading, Mass., thirty-six ambulances—all those within a 15-mile area—were hurriedly mobilized ready to evacuate the 300 patients and staff.

Fire Chief Hugh L. Eames of Reading massed one of the largest armies of fire fighters ever mobilized by "mutual aid" in the state, using radio and wire facilities. Help was rushed from Melrose, Allston, Chelsea, Somerville, Winchester, Lawrence, Haverhill, Arlington, Woburn, Cambridge, North Andover, Brookline, Everett and as far away as Nashua and Dover, N. H., in addition to the Reading and North Reading forces. Nashua firemen arrived 40 minutes after receiving the alarm. In this operation, Route 28 to Lawrence was closed at various times to facilitate movement of fire apparatus.

In another episode, for two hours during the night of the 23rd Fire Chief Ernesto Caouette, a dozen of his men, and Radio Officer Ralph Williams of the Fitchburg, Mass., Police, were hemmed in by flames. During all this time they were in touch with the fire fighting headquarters maintained at the local fire and police station and ultimately managed to escape when there came a break in the walls of flame.

In Malden, Mass., radio aided in massing fire fighters from Everett, Revere and Medford to prevent fire from reaching the Malden Hospital. While fighting this fire, radio summoned Medford firemen back to their own community to control a threatening blaze there.

For the first time, also, in large scale forest fires, voice amplification was employed successfully to direct fire fighting operations, handle traffic, and perform other essential communication tasks.

In Biddeford, a well-intentioned worker with an old fashioned megaphone on the running board of an automobile, only served to frighten people when he sought to gain volunteers for fighting the fire. Public address systems on roving vehicles, on the other hand, were used with considerable success for the same purpose.

Radio communications between ground forces and airplanes of the Army and State Conservation Corps were maintained with varying degrees of success. The heavy pall of smoke, however, so great that it was noticed 60 miles at sea, made accurate aerial observation and communications difficult. An electronic innovation was the use of radar by naval ships in feeling their way through the heavy smoke to Mount Desert Island, and between the dock at Bar Harbor, and evacuation points on the mainland, it is reported.

## Wetting Agents and Forest Fire Control

The extent to which wetting agents were used in controlling the numerous Eastern fires is as yet unreported. It is known, however, that they were used in limited applications in Westchester County, New York, where fire forces of Somers, Ketonah, Golden's Bridge, Mt. Kisco, Croton Falls, Mohegan, Bedford Village and Bedford Hills and Brewster (Putnam County), fought a blaze that burned over 2,500 acres in the northern area of Westchester.

Until complete reports are received, conclusions must be limited to the scant available data. This, though inconclusive, nevertheless permits of some observations, the most pertinent being that wet water definitely has its place in forest fire control. Secondly, that it appears to be particularly effective in mopping up operations where fire might be expected to reflash or rekindle after fire fighters had once knocked it down and passed on. Thirdly, it is an asset in protecting exposures.

The limited operations which came within the observation of staff members of this publication served to emphasize the need of better application of this modern extinguishing agent. Proper application is dependent upon having the right equipment and the trained personnel.

It is clear that different types of fires call for different methods of application of wetting agents, and different concentrations, if wastefulness is to be held to a minimum. Although normal use calls for a concentration of about one part wetting agent to 100 parts water, where operations are concerned mainly with extinguishing remaining fire and sparks in stumps, logs and solid matter as compared with vegetation, the solution (of the better known makes) may be reduced to as little as one-half per cent. This is particularly true where the impregnated water is applied to horizontal objects or material, as fallen logs. Used in pump-cans, at fairly short range, there is less run off on the horizontal applications and hence greater penetration and faster extinguishment. When applied to verticals, such as standing tree trunks, it is found advisable to cover the affected area more than once if less than a normal solution is used.

Contentions made by authorities who have experimented with wet water that where there is depth of fuel, such as leaves, needles or other compacted material the treated, or wet water, will penetrate to mineral soil even though applied on the surface with a fog tip and do so much more thoroughly than could be done with high pressure streams using plain water, would appear to be borne out by the recent results secured in these fire control operations. This would appear to be an important factor where because of extreme drought the ground has become almost dust dry.

With wet water, it is possible to deeply soak rotten logs, punk, duff, and similar fuels, reaching the heart of the fire without resort to an axe or other tools. Hollow snags with punk cores, where fire can lurk to re-flash with the wind when firemen's backs are turned, are easily saturated, using wet water. Sawdust piles and peat fires are usually controlled by a single surface application, it is reported. In these cases, wet water accomplishes more surprising results than when used on standing grass, grain or light brush.

The available information suggests that, as has been advocated by those most familiar with wetting agents and their application, the best results are had when the treated water is applied as a fog or fine spray rather than in a solid stream of any proportions.

## Water Fog in Forest and Field Fire Fighting

This fall's widespread field and forest fires provided ample apportunity for observation and evaluation of water fog as an extinguishing agent for this type of fire control. In many cases the re-

sults only served to confirm what was already known about water fog's efficacy and limitations. In other cases, student observers, who had opportunity to actually employ both high pressure and low velocity fog, were able to further develop the operational techniques for most effectively employing this type of extinguishing agent.

Field reports from the fire areas, as yet fragmentary, nevertheless attest the value of water fog: (1) as the means of making the minimum amount of water do the greatest possible fire extinguishing, (2) as a means of multiplying the effectiveness of fire fighting personnel, through the greater maneuverability of fog hose lines, and (3) as a means of saving the maximum amount of time in getting into action against spreading fire, particularly in its incipient stages.

The fallacy of attempting to control large scale or fast-spreading fires, where there is a strong wind, with water fog has also been attested in the recent operations, which have also emphasized another factor: the importance of proper training in the use of water fog. The skilled fire fighter, using water fog will accomplish highly effective results.

Although lack of space prevents a full discussion of the subject at this time the following observations are pertinent:

Pattern, or form of fog stream, and reach have a bearing upon the type and degree of fire to be fought. For average vegetative fuels, the most desirable fog pattern is said to be a circular form of even density with a pattern width of not over forty inches at twenty feet. Too great width of pattern may be wasteful in too much overlap and needless wetting of areas where it is not required. Some types of fuel, however, may call for wider patterns but under average conditions the one which will hold or concentrate the fog in a small area is reported most practical. There are no criteria to gauge rate of flow required for the amount of fire to be fought but, surprising as it may seem, as little as six to ten G.P.M. has been found entirely adequate for control of low fire along the front.

Where water fog was employed on fire in grass, grain stubble, pine needles and such ground layers, it was found that the fog stream passed over the burning fuel, without touching it but at about the area of maximum heat extinguished the flame with less water than where the stream was driven directly into the burning material.

A further factor which influences results is that of air currents. The ability of fog to break up heat currents and cool heated air is well known, but the technique of taking fullest advantage of convection currents created by fires and floating-in fog on such currents is only now being explored. It is the belief of fire engineers who participated in the New England struggle that heavy bodies of advancing fire can be checked by employing large volumes of fog (500 G.P.M. and upward) where the fog cloud can drift onto the fire, or along its flank. This volume also may be employed effectively to dampen down large areas ahead of a fire, where favorable wind currents may be taken advantage of. They point out, however, that from the standpoint of effectiveness, fog volume must be varied according to the intensity of the fire and that small volume is useless on high intensity, fast spreading fires. Where such conditions are encountered it may be best to reserve fog to protecting exposures and for extinguishing incipient fires started by flying embers.

## Aid Comes by Air in First Disaster Plan Work-Out

The Disaster Relief Program set up by the Red Cross and the armed services got its real first post-war test in the East on October 24th. Soon after the "alert" had been received from hard-pressed New Englanders, soldiers, medical men and supplies, communication units and fire-fighting equipment were dispatched from the metropolitan New York and other areas.

At 2:15 P.M. on the 24th the first of sixteen C-47 Army Air Forces transports took off from Mitchel Field, L. I., with a vanguard of 240 men assigned to relieve the exhausted civilian and military personnel who had been battling the fires in Maine for two days. They were sent to Dow Field, Bangor, and then dispersed in small groups through the stricken areas.

Four medical officers were also sent. Meanwhile, the Middletown, Pa., Air Materiel Command moved 9,200 feet of hose, 400 portable water tanks (pump tank extinguishers) and 1,000 picks, shovels, mattocks and brush hooks in four cargo planes. The order to ship the materiel stemmed directly from Gen Carl Spaatz, Chief of the Army Air Forces.

As the men and materiel arrived at the disaster area, the Coast Guard was setting up complete mobile communications force at the request of Harold Gilmour, Red Cross disaster director for the north Atlantic area. The first communication units, flown from Floyd Bennet Field, were in service the night of the 24th and heavier equipment was rolling to the area by trucks. Coast Guard stations in Cleveland and Norfolk also dispatched field equipment and men. The entire set-up was under the tactical command of Lieut. Cloyd C. Lentz.

The Portland, Me., disaster control chairman flew over the fire-stricken area of Mount Desert and vicinity on the 23rd and estimated the fire front covered between 80 and 90 miles.

Aid flown from New York was in charge of Maj. Gen. Robert M. Webster, Commanding First Air Force. The first planes carried portable fire extinguishers, in addition to medical supplies and other equipment. Additional flights were alerted on the 25th.

Navy as well as Army planes flew National Park Service personnel and equipment from distant points, some reaching New England from as far away as Seattle, Wash.; Yellowstone Park; Atlanta, Ga., and other southern areas. Disaster relief officials, who had been operating in Florida following the recent hurricanes, were also flown to the New England areas. Meanwhile, top Army officials were active in directing operations. Maj. Gen. Frank W. Keating, First Service Command head, made flights over the New England area to locate points for army assistance.

Aerial observation and reconnaissance was active in New York, New Jersey, West Virginia and Michigan as well as in New England. Both military and private planes were used on the largest scale ever employed to combat the menace of fire. Commercial air line pilots also rendered service by reporting on fires observed on their scheduled flights. Private planes, and some used by the Civil Air Patrol and National Guard were used in various sections. The most effective air operations, however, were those where planes (such as in the State

(*Continued on page* 808)

Photo courtesy T. F. Magner

**Symbolic of America's Wastefullness and Carelessness**

Monument to the fallacy of building potential bonfires in woods where all that is needed is the right kind of weather—and the touch-off.

# Los Angeles Launches Major Fire Dept. Improvement Program

## Thirty-five New Stations to be Built; Much Apparatus to be Replaced; Bonds Already Voted

By INSPECTOR WILBER A. SWEETERS
Public Education Detail, Los Angeles Fire Department

HOW would you like to have the task of building a home—and be given only a hammer and saw to work with? Taking stock of its resources after the war, the fire service in the City of Los Angeles discovered itself in very much the same position. Fastest growing large city in the world, Los Angeles expanded tremendously during the war, yet no comparable development was possible for its fire protection facilities. Conversely, during the war years the department found it necessary to abandon three engine houses and move the units into more substantial quarters with other companies. Military requirements were a serious drain on personnel and forced available manpower to a low level, though at this writing returnees and new men have brought manpower back to a new peak.

The difficulty of obtaining new apparatus during the war is no new story to fire department heads. In Los Angeles it forced continued use of apparatus long outdated and unsuited to operation under modern high speed traffic conditions. One hundred twenty-two units of fire apparatus or active duty were more than fifteen years old, some had seen over twenty years of service. One such unit, a water tower stationed in the high value district, was originally a horse-drawn vehicle and dated back to 1905. Practically all of the reserve units were more than twenty years old.

The term "antique" could be applied equally well to many of the stations housing this equipment. A portion of them were holdovers from the horse-drawn era. Located close together in the older sections of the city, they were designed for comparatively short runs by horse-drawn apparatus. Of frame construction, many of the older houses were well beyond the salvation of paint and scrubbing. One had been condemned for human occupancy by the Department of Building and Safety. Another could be shaken from end to end by the motion of a man jumping up and down.

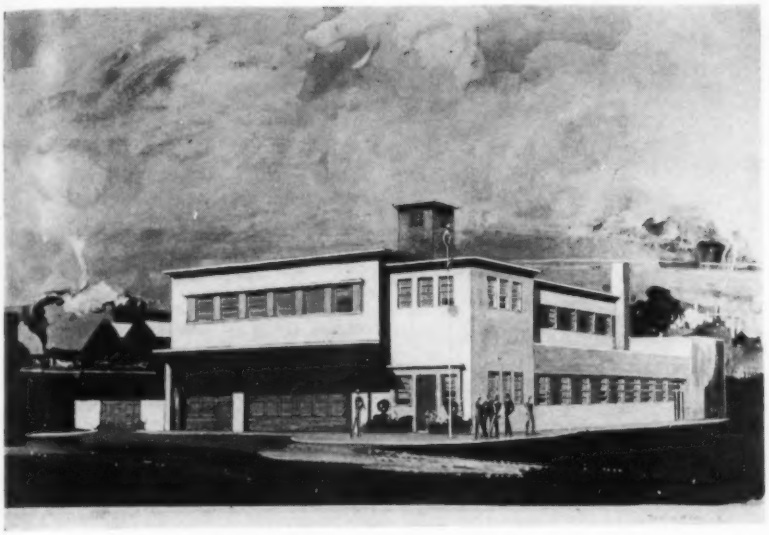
Yet neither worn apparatus nor aged engine houses have been Los Angeles' most serious fire protection problem. Never, since the days when the city annexed much of the surrounding territory, has the fire department been able to extend really good fire protection to its outlying districts. Adequate, perhaps, but only so by virtue of sending rigs on long runs, frequently up to six or eight miles. Yet despite this fact, the situation prior to 1940 was not serious as the areas in question were not heavily built upon. But the war brought hundreds of new industries and hundreds of thousands of new citizens to the city. New residential areas and shopping districts were being built in previously undeveloped sections. The need for fire protection in these areas was probably the most serious fire protection deficiency facing the city.

Indications of this situation became more and more evident as the war progressed. Long before the war ended, before the term "reconversion" became a national slogan, Los Angeles Fire Department officers had been assigned to work out the details of a long range expansion program. Of invaluable assistance in this work was a complete survey of the department's facilities made by engineers of the National Board of Fire Underwriters in 1941, together with their recommendations for modernization of facilities. The extent of the growth of the city during the war years made it necessary in 1946 to request a resurvey by the Board engineers to bring their 1941 report up to date. Plans finally adopted by the fire department were drawn in most cases in close conformity with the suggestions then made by the Board.

It was determined that for proper distribution of fire protection a total of 35 new engine houses were required. Of these some would be replacements for existing stations on their present sites, some new locations for existing companies, and some new stations for entirely new companies located for the most part in newly developed sections. Sites for some of these new stations had already been acquired by the city. A municipal program of this magnitude could, of course, be financed in one way only, by the sale of bonds, which course of action in Los Angeles required consent of the taxpayers. Early in 1947, city officials decided that the city could no longer afford to be without adequate fire protection and other municipal facilities, and it was determined to submit the question to the people at a coming city election.

It was during the preliminary stages of this campaign that President Truman called a Conference to be attended by leading authorities in the field of fire prevention, fire protection and fire engineering from all over the United States. Chief Engineer John H. Alderson made a visit to Washington at that time to hear President Truman deplore the appalling nationwide death toll of fire and personally stress the need for fire prevention and the fact that fire protection is the responsibility of local authorities and of each and

**Rebuilt Several Times, the Twenty-Four-Year-Old Stutz City Service Truck at Left Is Still Without Many Improvements Now Considered Necessary for Efficient Fire Fighting Equipment. Compare It with the Modern Pumper (Right) Which Is One of Several Types of Apparatus Now Being Purchased by the Los Angeles Fire Department**



Several Modern Los Angeles Fire Stations Will Take the Form of This Artist's Conception. The Style of Engine-House Architecture Is Designed Where Possible to Blend with Prevailing Neighborhood Settings

every citizen. This national recognition of the problem came at a most opportune time for the local fire service. It posed the same question that was being readied for presentation to the electorate, "Do the citizens of Los Angeles want better fire protection?" The election results proved they wanted that protection and were willing to pay for it. There can be no doubt but that the results produced so soon in Los Angeles were precisely those sought by the President when he called the Conference.

The issue was presented to the voters on May 27 in the form of a bond proposition which would permit the city to sell bonds to the extent of $4,600,000 to be used to expand fire department facilities. The proposition had the enthusiastic support of Mayor Fletcher Bowron and the City Council and it was given first place on a ballot containing seven bond propositions, all of them designed to promote the welfare of every citizen of Los Angeles.

Though the success of the fire bond issue was no doubt due to the very real need for increased facilities, the moral support furnished by the President's Conference was most timely. In addition, local election observers feel that two other factors contributed much toward gaining approval of the electorate. When the time came to undertake the campaign the fire department was ready with detailed plans of how it intended to expend the money. In most cases it was possible to point out to residents of various sections of the city exactly where their fire stations were to be located and exactly how the passage of that particular issue would affect them individually. A second factor was that both firemen and policemen were sufficiently interested to contribute their time and money toward acquainting their fellow citizens with the problem. Before election day, off-duty firemen had delivered explanatory literature to nearly every householder in the city. On the day itself both firemen and policemen proved so effective in getting out voters that the election produced a much larger vote than had been forecast. Los Angeles citizens were so well apprised of the importance of good fire protection that the issue carried by a margin of more than two and one-half to one.

Now that the election has been decided and the approval won, plans for the expansion are being carried out with all possible speed. Of necessity the building program must be spread over a period of time. Present day construction costs are so high that immediate building would in some case be unwise. There is the further consideration that municipal building should not compete with housing construction, at least until after shortages have eased. Some of the newly authorized apparatus is already on order, and funds from the bond issue will provide the basis for a plan whereby in a reasonably short time all apparatus on active duty will be retired at the end of the fifteenth year and reserve apparatus retired permanently at the end of the twentieth year. Thereafter, the plan will proceed according to a fixed and orderly schedule with certain apparatus being retired each year so that the city need never again be faced with the burden of replacing a large number of outdated pieces of equipment at any one time. It is believed that a workable plan of this type is something new in fire department administration in the United States.

Summarizing the future of the fire service in Los Angeles, it is apparent that the very best type of fire protection will be available for the city. With young, well trained and well disciplined personnel, with a program for equipping all mobile units with two-way radio well under way, with fire prevention activities playing an increasingly important role, and now with modern apparatus and well located stations assured, the Los Angeles Fire Department stands ready to demonstrate that the protection for which its citizens are paying is well worthwhile.

## Treating Christmas Trees to Reduce Fire Hazard

After investigating a number of methods considered to have possibilities for making Christmas trees less flammable, the U. S. Forest Products Laboratory has concluded that keeping the tree standing in water is about the most practical, satisfactory, and convenient method of those tried for reducing the fire hazard and preventing the needles from discoloring or falling. Additional protection against fire can be provided by the use of fire-retardant coatings in conjunction with the water

(*Continued on page* 819)

Apparatus in This Double Company Station Now Uses the Same Facilities as Its Horse-Drawn Predecessors Once Did. These Companies Will Soon Move to New and Modern Quarters

# SOME HIGHLIGHTS OF 1947 FIRE PREVENTION WEEK

## Observation Nationwide; Many New Innovations Tried Out; Industry Cooperates

BRIDGEPORT, Conn.—The "Father of Fire Prevention Week" and, through the years, its most articulate ambassador, T. Alfred Fleming, Director of Conservation of the National Board of Fire Underwriters, spearheaded a program in observance of 1947 Fire Prevention Week before more than 250 city and state officials on October 8 at the Stratfield Hotel, Bridgeport, Conn.

Following Mr. Fleming's address, in which he emphasized the destructive waste of life and property by fire in this country, there was an exhibition of fire fighting and fire prevention equipment.

Photo by Frank Decerbo

**T. Alfred Fleming, Director of Conservation for the National Board of Fire Underwriters, Talking to Fire Officials at bridgeport, Conn.**

Mr. Fleming commended State Police Commissioner Edward J. Hickey for setting up one of the best systems of fire prevention standards in the United States. "If other states would follow the example of Connecticut, they would truly attain the goal of fire prevention," he said. The meeting was sponsored by the Bridgeport Safety Council and Mr. Fleming's talk was broadcast over radio station WICC.

The Bridgeport Fire Department participated actively in the program. A standard fire alarm box and panel board was installed in the hotel ballroom with Capt. Joseph J. Brady, Acting Supt. of Fire Alarms, in attendance to explain its operation. Another feature was one of the original hand pumpers used in Bridgeport in the early days of the Fire Department. This was by way of contrast with the exhibition in front of the hotel, on Main street, of a new pumper recently acquired by the City.

During the evening a Navy training unit, using mobile fire control equipment, staged a demonstration aboard LST 1038 in the local harbor.

TOM MAGNER

NORFOLK, VA.—Radio played a stellar role in the city's 1947 Fire Prevention Week activities. Approximately twenty-five programs were given by the three radio stations of the city, with as many newspaper articles; in addition, the number of radio spot announcements ran into the hundreds, according to Henry Cowles Whitehead, Program Manager of station WTAR.

The Norfolk Fire Department staged a number of demonstrations and there was a large parade with ten pieces of fire apparatus and three bands. All of this was in addition to the usual promotion, including posters, talks before civic clubs and in schools; open-house in fire stations; fire drills and the like, in all of which the fire department actively cooperated.

Said Mr. Whitehead: "Those of us here in Norfolk, who have seen the Fire Department in the past years, feel that our Chief, R. L. Woolard is doing a magnificent job."

AKRON, OHIO.—Highlighting its Fire Prevention Week program in Akron, the Goodyear Tire & Rubber Company featured in its display a genuine antique fire pump, built in 1833. This old hand-drawn, hand-operated relic was acquired when the company purchased a Connecticut village fabric mill in 1913.

Following the tradition of the early volunteer fire service, when equipment was named after some famous fire, or military hero, this old "engine" was given the name "Pequot" after a battle and fire that occurred during the Connecticut Indian wars.

The progress made in fire fighting facilities in the following 114 years was dramatically shown by comparison between this old "armstrong" pump with its five-foot goose neck nozzle, two lengths of antediluvian leather hose, and today's modern power pumpers such as

**Six Members of the Goodyear Tire and Rubber Company Fire Department Took Action Stations for This Photograph of an 1833 Model Fire "Truck" During Fire Prevention Week**

participated in numerous Fire Prevention Week exhibitions and parades.

GRAYSTONE PARK, N. J.—Fire Prevention Week was not limited to observance by municipal and private plant fire departments, but was promoted by many public and private institutions and organizations.

Fire prevention in the State Hospital at Graystone, N. J., dates from June 25, 1894, when, according to the minutes of the board of directors, an evacuation drill was held and efforts begun to organize a fire-fighting service.

Today the hospital fire department has a roster of sixty-seven names, three of these being full-time firemen: Fire Chief Charles H. Acker, and two full-time drivers. About twenty of the volunteers live in the fire house dormitory. The present equipment includes three motorized pumpers, one a 1947 model, and a ladder truck and squad maintenance truck.

There are fifty-nine hydrants on the hospital grounds and several of the buildings are equipped with automatic sprinklers. Fire alarm boxes are located throughout the grounds and buildings. There are 635 fire extinguishers in the institution. All fire fighting equipment is inspected and tested periodically and the fire department conducts regular drills.

NEW YORK CITY.—This year the nation's largest city entered into the spirit and letter of Fire Prevention Week on a larger scale than ever before in its history. The New York Fire Department, under the direction of Fire Commissioner Frank Quayle and Chief of Staff and Operations Frank Murphy, spearheaded the promotion, with heavy emphasis on getting the story of fire prevention over to young people.

Every available means of publicizing the Week was employed. In addition to broad use of press and radio there were drills, parades, demonstrations in which fire fighting equipment of bygone days was widely shown, and the story of Fire Prevention Week told in theatres and movie houses.

One incident of the celebration, unrehearsed, it is said, made the press headlines. It had to do with the Fire

Prevention Week show staged at City Hall October 3, as the setting for Mayor O'Dwyer's proclamation of the event.

Members of the Fire Department had erected an elaborate brownfront tenement house of canvas and timbers to emphasize the penalty of carelessness in handling lighted matches and cigarettes. James Barton, Broadway actor, was cast in the role of a drunk idly tossing a match through a window after lighting a cigarette. And for the performance, Barton was planted in the crowd beyond the police lines.

On cue, Barton weaved and lurched through the crowd and pushed past the restraining police lines into the staging area. He had proceeded only a few unsteady paces when Assistant Chief Inspector Frank Fristensky, Jr., commander of the Manhattan east uniform force, hurried forward and shoved the actor back into the crowd.

A policeman, who was aware of the stunt and the script, rushed to the inspector to prompt him on letting the "drunk" on stage. Sheepishly with an apologetic glance at Mayor O'Dwyer and Fire Commissioner Quayle, the Inspector slunk away to lose himself in the blue-coated ranks. The program then went on schedule, with the match starting the fire; the Mayor turning in a fire alarm; the response of a full assignment of firemen and their demonstration of modern fire suppression.

Cooperating with the Fire Department throughout the city were many industrial concerns and the public utilities. Among the latter, was the Consolidated Edison Company, whose store and window displays were outstanding. One of these is reproduced herewith.

KNOXVILLE, TENN.—Literally as well as figuratively, Knoxville got off to a noisy start with its Fire Prevention Week promotion this year.

The loud note was, however, sounded by the student cheering section of the University of Tennessee "volunteers" at a football game played in Shields-Watkins Stadium, home of the University's "Vols," on Saturday October 11, last day of Fire Prevention Week.

Rooting Section of University of Tennessee Stadium at Knoxville Takes Time Out to Deliver Fire Prevention Message During Football Game on October 11

According to H. N. Witt, Chief, Bureau of Fire Prevention, Knoxville Fire Department, Tennessee University is one of the very few schools in the south to use card tricks, and the department feels that this unusual and novel display was a great contribution to Fire Prevention Week program.

## Luke Field Department Has Enviable Record

Some day somebody may write the full story of how the nation's Army Camps and Depots, Airfields, and other government installations were protected against fire during World War II. At present, however, the records are meagre, prosaic and in some cases inaccessible. Nevertheless, FIRE ENGINEERING has published numerous individual accounts of this phase of wartime operations and will continue to do so as the facts become available. A further example is the following brief account of the activities of the Luke Field Fire Department, Luke Field Air Corps Base, Luke Field, Arizona.

This story is largely the record of one man, Chief James J. Murphy, former Fire Chief of Warren, Arizona, who was called — in June, 1941, six months before Pearl Harbor, to organize the fire protection for Luke Field, destined to become the largest single-engine advanced flying training field in the United States.

As with the development of other large Army Air Force bases, the fire control forces at this Base were created and built largely out of thin air. When Chief Murphy took over June 16, 1941, the fire protection consisted of eighteen soda-acid fire extinguishers; 600 feet of 2½-inch standard hose and a nozzle, borrowed from the City of Phoenix, Ariz; a used 1½-ton dump truck and two G. I. firefighters.

From this beginning, Chief Murphy and his aides developed the department to 224 civilian firefighters, eighteen crash fire trucks and seven pumper trucks. Luke Field, ultimately expanded from the home field into two sub-bases and seven auxiliary fields, scattered from Wickenburg to Ajo, Arizona, a distance of approximately 155 miles. Keeping the department coordinating over such an area was no easy task. But the low fire losses of less than $12,000 during the entire period of the war and up to August 1, 1947, is proof that the job was done.

At the Luke Field Fire Station, Chief Murphy was instrumental in equipping a classroom dealing with all types of fire extinguishers and all methods of storage and handling of high octane gasoline. More than 3000 officers,

(*Continued on page* 833)

One of the Many Fire Prevention Week Show Windows Arranged by the Consolidated Edison Co. in New York

## Volunteer Sentenced

Walter I. Finney, 30-year-old volunteer fireman of New Canaan, Conn., who last July 9 touched off a blaze in a shed owned by his employer, the New Canaan Lumber Company, was sentenced to nine months in jail by Judge Thomas A. Malloy in Superior Court, Bridgeport, on Oct. 15, but execution of the sentence will be suspended at the end of 45 days so that the defendent may continue to receive psychiatric treatment.

Finney, who pleaded guilty to willful burning of a building, used a cigarette lighter to set fire to a pile of empty cement bags, State's Attorney Lorin W. Willis told the court. The blaze was started by Finney as he was enroute to his home after finishing his day's work in the lumber yard, according to the State's Attorney.

A few minutes after an alarm had been sounded by a passerby Finney jumped aboard a fire truck as it passed his house, about two blocks from the scene of the blaze, and assisted fellow firefighters in extinguishing the fire. Damage amounted to only a few dollars. Police who questioned Finney, said he admitted that he had set fires in three taxicabs which he formerly operated, and that he turned in several calls for grass fires, and was interrogated in connection with a fire which destroyed an abandoned house owned by his mother in Vista, N. Y., and a blaze which damaged slightly his own home.

TOM MAGNER

## The Cover Picture

The City of Waukegan, Illinois, had a pretty good lesson on July 17, 1947, in why it pays to have an efficient fire department—and incidentally, rather conclusive testimony as to the questionable practice of giving gasoline tankers the right-of-way through the high hazard district of a municipality.

As is dramatically illustrated here, and on the front cover of this issue, a gasoline truck chose a most inappropriate spot to "take off," midway between a fourteen-story hotel and a five-story warehouse.

Considering the volume of fire, and the heat radiation, which broke windows up to the fourth floor of the hotel, Fire Chief Walter B. Hutton and his men would seem to deserve the orchids for making a spectacular stop, with the equipment at their disposal. The total loss was less than $16,000, including the damage to nine automobiles, parked in the danger zone on the street.

## Fire Statistics for 1946

The number of fires in U. S. urban areas has constantly increased during the past five years with the largest increase in 1946, Major General Philip B. Fleming, Federal Works Administrator and General Chairman of the President's Conference on Fire Prevention, announced on October 19.

This information was included in a report submitted to General Fleming by the Committee on Statistics of the President's Conference.

During 1946 an estimated 1,006,719 fire alarms were sounded, an increase of 32 per cent over the 764,786 alarms estimated during 1942.

The sharpest increase took place among the "other-than-building" fires; fires occurring in lots, fields, streets, parks, woodland, automobiles, trucks, trains, or places away from any structure. These increased 45 per cent from 339,055 in 1942 to 488,381 in 1946.

"Building Fires," destructive fires occurring in structures of all types, totalled 355,332 in 1946, an increase of 14 per cent over the estimated 311,280 in 1942.

The total number of fires of both types increased from 650,335 in 1942 to 843,713 in 1946, an increase of 29 per cent.

False and miscellaneous alarms jumped from 114,451 in 1942 to 163,006 in 1946, an increase of 42 per cent, the committee reported.

These figures were based on fire alarm data submitted by 1,584 cities reporting to the President's Conference on Fire Prevention last May. The conference's statisticians have been analyzing the data since then.

The conference reported that the increase in the numbers of fires and fire alarms "was felt in cities of all population classes. 'Other-than-building' fires in the largest cities increased by a noticeably greater percentage than did the same fires in smaller cities," the report stated.

"The reason for the increase in the proportion of 'other-than-building' fires in the largest cities is not clear at this time. Fires in automombiles may be responsible, and the question will be investigated further."

The conference report stated that deaths and injuries as reported by the fire chiefs in 1,584 cities showed civilian deaths in fires have increased moderately since 1942, but that injuries to both firemen and civilians have gone up much more rapidly. "These upward trends are perhaps accounted for by the increased number of alarms. Since 1942 deaths and injuries have varied in accordance with the number of alarms."

## Warning Issued on Grain Mills

Because fires in grain, cereal and flour mills, stock food factories, grain elevators and warehouses increased 50 per cent during the last year, the National Board of Fire Underwriters is issuing a special warning to fire departments and all concerned with the handling of grain to maintain increased vigilance against the peril of fire.

The National Board points out that four fires alone in grain elevators and mills late in 1946 and early this year each destroyed several million bushels of grain and caused losses of from one to three million dollars.

"With emergency relief demand of 100,000,000 bushels of grain for the starving people of warswept areas, and the need for maintaining a fairly normal supply for the people of the United States, immediate action to prevent destruction by fire of grain and grain products becomes of vital importance to those on whom the responsibility of providing fire prevention and fire protection falls," the National Board's bulletin says.

"It is essential that all establishments storing, handling and processing grain and grain products should be vitally interested in a self-inspection service, involving not only a periodic checkup, weekly, but entailing constant vigilance of those conditions most apt to cause fires.

"Further, and more important than the causes of fires are the conditions which let a fire involve a whole structure through the upward or horizontal sweep of flames and heated products of combustion.

"Industries involving the handling of grain generally produce the hazard of grain dust explosions. Cleanliness is usually the best cure for this.

"Grain handling often requires high or large buildings. Structural changes,

**Waukegan Tanker Fire Gets Away to a Good Start!**

Behind this blazing gasoline truck is a five-story warehouse and crowd of parked automobiles. You wouldn't think they had a chance, but Waukegan firemen under Chief Walter B. Hutton held losses to cars, warehouse and an exposed 14-story hotel to $16,000.

cut-offs by walls and fire doors, the enclosure of vertical fire-travel and the installation of automatic fire detection and of automatic sprinkler systems are all of value."

The National Board's bulletin urges fire departments to make a survey of areas in their jurisdiction to determine which plants, stores or other places involve the storage, handling or processing of grain, to encourage self-inspection on the part of these plants, to make inspections by members of the fire department, and to encourage civic organizations to work for improvement of hazardous conditions.

Self-inspection blanks to assist managements in checking up on their plants, stores, elevators or other places handling grain are being sent to all fire departments in the U. S.

## Antique Galleries Make Smoky Fire

Fire starting about 5:45 P.M. in the Samuel Hart galleries, combination antique and current furniture store, on South Main street, Houston, Texas, on September 11, practically wrecked the two-story block with losses to building and stock estimated at $250,000.

The heavy smoke and the fact that the fire was in full control of the finishing room of the galleries on the second floor and had extended to almost all other sections when first firemen arrived, gave the department a hard fight. Responding on three alarms, the crews of twenty-two pumpers and ladders fought the blaze from every vantage point to prevent its extension to other stores and nearby residences. In this they were successful.

The heavy smoke, movements of apparatus through the streets, and the broadcast reports of the fire, brought a crowd of thousands, many in motor cars to the scene, who jammed traffic and interferred with fire fighting operations. Efforts of police to clear the blocks of backed-up rush-hour traffic were only partially successful as spectators clung to vantage points in their cars.

First Chief Roy R. Whittlesey said he believed the fire started in a furniture refinishing room which contained a quantity of flammable varnishes. The highly combustible contents of the structure furthered rapid extension of the fire despite best efforts of firemen.

**Decatur's New Drill Tower on a Lake**

New four-story structure built of old box car lumber on shore of Decatur Lake. View looking from south shows approach built to facilitate pump operation.

## Decatur Builds Tower

The first drill tower of the Decatur, Ill., Fire Department has been erected on Lake Decatur, the south entrance of the City on U. S. Route 51, in a sylvan park area. Groundscaping has transformed the site from a weed infested place to one of rustic beauty. The location permits the training of personnel in pump operations—hydrant and draft, as well as in the normal drill tower evolutions. In addition to the lake, from which apparatus can draft, there is a fire hydrant located about 100 feet from a 20-inch main, which furnishes ample water.

The base of the tower is built heavily to withstand reasonable storm. The base also extends far enough out from the wood framework so that the tower can be bricked up when labor and materials are more plentiful. The lumber for the tower and supporting timbers was obtained from dismantled box cars and is well seasoned and said by the builders to be the best material obtainable for the purpose.

The tower itself is four stories high, with the first three floors having 11-foot ceilings. There is a 4-foot rail around the fourth floor. At present the framework of the tower is covered with ½-inch galvanized hardware cloth, in order to prevent children from climbing the tower and running the risk of injury. The cloth will serve as a good tie-in when the tower is finally bricked up. The framework is held together by heavy bolts.

Night training is made possible by lights on the tower—an asset when the state regional training school holds its sessions in Decatur. Men working daytime can thus attend night sessions and receive the same training as do the daytime enrollees.

A telephone has been installed on the first floor to permit calling of additional equipment, or to meet any emergency that might require the men and equipment at the tower. The lake and tower are only about eight blocks from downtown Decatur. A traffic sign, reading: "Decatur Fire Department Training Tower" is located near the top of the tower and can be seen from Route 51.

The installation has attracted much favorable attention and many out-of-town firemen have come to inspect it, according to Chief Ira D. Leech who heads the Decatur Fire Department.

The illustration shows the tower from the south.

**Houston Firemen Working on Smoky Antique Store Fire**

Left: Crowds and power wires and poles complicate fire fighting. Firemen with hand lines are shown in operation in the rear of the burning structure. Right: Fed by varnishes and other flammables, fire extends through two-story Samuel Hart store, as crews of twenty-two pumpers and ladders struggle to confine it.

## Volunteers Boast Model Department

Harris Hill Firemen questioned tradition and decided a white fire engine had advantages over a red one, and a fire headquarters did'nt have to look like a block house.

Harris Hill is a residential community of 200 homes near Buffalo, New York. The organization and development of the Fire Company followed a pattern that can be summed up with a few highlights: organized 1937; members cosigned notes to buy new fire truck; organized fire protection district; selected new fire fighting equipment first, then saved money from parties and picnics to build new $35,000 fire hall.

Firemen claim the white fire truck is more visible at night on the highway and therefore safer than the traditional red color. In selecting fire fighting equipment, Harris Hill acquired many "tools" not found in larger cities. For example, a high pressure Bean fog nozzle is attached, with high pressure hose, to what once was a traditional booster line. From hydrant or tank the Hale 500 G. P. M. centrifugal pump, built for standard use, will develop 400 lbs. nozzle pressure to make fog.

Other equipment includes 3 Elkhart combination fog or stream nozzles; 1,000 feet of hose, half of which is 1½ inch; Scott Air Pack; M. S. A. all-purpose gas masks; salvage, rescue and first-aid equipment.

The new fire headquarters has room for another piece of apparatus (when needed) and recreational facilities for the community. The right wing has a 30 x 36 ft. club room, which is a dining room five days a week for club members. Kitchen, bar and full-time chef provide food, refreshments and a pleasant place for the community to meet their friends and relax.

The building was designed to be in keeping with the architecture of the residential community.

Combination Fire Station and Recreational Center of Harris Hill Fire Department

## Past-President Delaney Honored

Chief Charles A. Delaney, retiring president of the International Association of Fire Chiefs, was tendered a testimonial dinner in Lakewood, Ohio, on the evening of October 7th, 1947.

The dinner, held at the Lake Shore Hotel, Lakewood, was attended by leading representatives of the fire service, including Chief Frank McAuliffe, who succeeded Chief Delaney as head of the International Association of Fire Chiefs; Chief Charles Granger of Cleveland, Ohio, and other persons prominent in local and state government in Ohio.

The Hon. C. V. Weygandt, Chief Justice of the Supreme Court of Ohio and a resident of Chief Delaney's own city, was the principal speaker. Mayor A. I. Kauffman, of Lakewood, acted as master of ceremonies and toastmaster.

In the course of the dinner, Chief and Mrs. Delaney received numerous messages of felicitation from their friends in the fire service from every section of the country and Canada.

**Twelve Rescued from Hotel Fire**

Fire fighters performed several heroic rescues at an early morning blaze at the Clark Hotel, Oakland, Cal., on August 14. Here a fireman carries a woman guest to safety from one of the lower floors. The hotel was damaged to the extent of $20,000.

## Fatal Fire Crash

Five firemen were injured, one fatally, in the crash of Ladder 3 of the Kansas City (Mo.) Fire Department and a street car. Fireman William Oliver, who was pinned for ten minutes between car and ladder, died in a hospital of multiple fractures and internal injuries.

Also injured in the collision were Capt. Lester Williams, Tillerman Ralph French, Driver Angello Charnella, Fireman Charles Allen and street car operator William Wilson.

The 75-foot aerial ladder was traveling slowly, bound for the Masonic Building to remove an occupant, unintentionally locked in the structure, from a second-floor window when, at the corner of Tenth and Harrison streets, the street car, traveling about twenty miles per hour, crashed into it, despite the effort of the tillerman to throw the rear of the ladder around. The front of the car was smashed in and the apparatus damaged beyond repair, according to Francis Wornall, city fire director.

Charges were brought against the car operator. It was disclosed that the apparatus was traveling, with bell and siren operating.

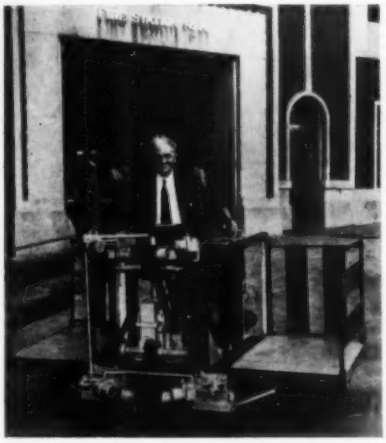
Two days after this accident, No. 8 pumper and one of the city's new aerial ladders came together at the intersection of 15th and Troost avenue, damaging the new ladder. All Firemen escaped serious injury, however. (Thanks, Chief Bill Gardner and John H. Waas.)

## Novel Mechanical "Fly" for Fire Rescues

An unusual apparatus, the Bernett Mechanical Fly, which is designed to aid firemen in reaching the high blaze, was demonstrated to Kansas City, Mo., Fire Department officials in September.

The mobile device is expected to climb the exterior of buildings. It is small enough to be transported on an ordinary truck.

Willis J. Bernett, inventor of the Fly, put his device through its paces. First he climbed into the motorcycle-type seat of the Fly, fastened clips around



**Inventor Willis J. Bernett Operating His "Mechanical Fly" as a Self-Propelled Vehicle in Front of Kansas City Firehouse**

his trouser cuffs, then pushed on a foot pedal which started the machine's 2-cylinder gasoline engine. The device rolled along the ground on its tricycle wheels until it came to a vertical steel beam to which was attached heavy gear teeth. The Fly, which resembles a sort of open air elevator, started to crawl up the beam.

"It's the rack and pinion principle," the inventor told the spectators. "It's perfectly safe."

The Fly was run to the top of the steel beam, then down again, by Bernett, as he rode in the seat and manipulated the gear shift. Descending, he turned off the sputtering motor and explained the operation of his invention. He said the Fly was caused to move up and down when the teeth in a rotary gear, attached to the Fly proper, meshed with the teeth of the fixed gear on the face of the vertical beam. The Fly is portable, and may be folded up for loading into a fire truck or may be operated along a street under its own power. The gear track is stationary equipment, which must be bolted to the side of a building. Apparently an I-beam to which it is attached must also be provided.

Two platforms unfold to permit several passengers to ride on the Fly when in use. The platforms fold up while the apparatus is being driven along the street.

Passengers on the Fly during the demonstration included Francis Wornall, Director of the Kansas City fire department; Roy Moulton, Assistant Chief of the Kansas City, Kansas, fire department; O. D. Lear, Chief of the North Kansas City fire department; Eli Dahlin, Assistant Chief of police in Kansas City, Kansas, and Chief M. T. Gaffey, drillmaster of the Kansas City fire department.

RAD NELSON

## Traffic Takes Heavy Toll

The traffic problem continues to grow more serious for the fire service, according to the increasing number of reports of accidents involving fire apparatus which reach this journal.

On the morning of October 15, the pumper from the Highland street fire station in Paterson, N. J., collided with an automobile driven by Tom Brown, 59, well-known colored sports figure of Paterson, resulting in the death of Brown and injuries to his two women companions, and to the crew of the pumper, Captain Frank Spagnola, and firemen John Whalen, Leo Fitzsimmons and Albert Micozzi.

With fireman Whalen, veteran of twenty-two years in the service driving, the pumper was traveling south on York avenue. At Lafayette street intersection, Brown's blue sedan collided with the heavy apparatus. Driver Whalen swerved his truck but struck the sedan on the side and dragged it a short distance, then the pumper jumped the curb where it stopped. The apparatus was little injured, but the sedan was badly smashed. Brown, at first believed not badly hurt, succumbed in a hospital. Fireman Whalen was the worst injured of the fireman. He suffered a bruised back and sprained right wrist, when thrown from the truck.

Captain Spagnola reported the siren and bell were both being sounded but that Brown's car had the windows up and the radio was playing, which probably accounted for the fact that the victim failed to hear the apparatus. Deputy Chief Hobart Strathearn arrived at the scene shortly after the accident and aided in removing the victims. Meanwhile Engines 3 and 10 and Ladder 3 under Battalion Chief Joseph Bray extinguished the fire, which was in a four-car garage.

In St. Louis, Mo., Battalion Chief Edward W. Johnson was killed in a daytime accident when his department

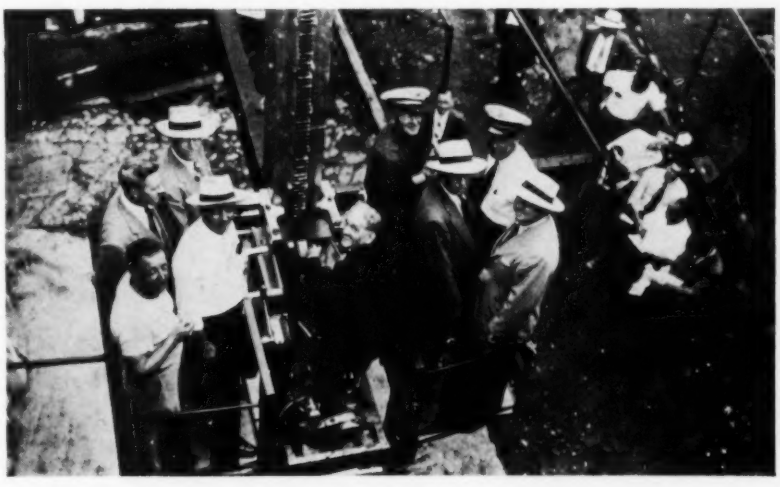
**Pacific Coast Memorial Services Impressive**
High point of the 52nd Convention of the Pacific Coast Association of Fire Chiefs, held in Spokane, Washington, Sept. 14-15-16, was the memorial service, one of the episodes of which is pictured above. This tableau shows Frankie Burger, son of Assistant Fire Chief Frank F. Burger, and Marian Perusse, daughter of Fire Captain Perusse, kneeling at the foot of the cross, paying last respects to the departed members of the association.

car, driven by a substitute driver, crashed into a Public Service Co. bus at 12th Boulevard and Market street, on October 20th. The driver, Fireman John Frandeka, Engine 2, was seriously injured. Three persons on the bus were injured, none badly.

Chief Johnson and Fireman Frandeka were not on an official run of record in the department but were believed to have picked up a police radio report of a defective burglar alarm and were hurrying there under the impression that there had been an alarm of fire. They had taken Johnson's regular driver to the hospital for burns on an arm a short time earlier.

Pedestrians on the street said they heard the car's siren begin to sound

(*Continued on page* 832)



**Inventor Bernett Demonstrates How "Fly" Takes Firemen or Other Persons Up or Down Front of Building as Sort of Outdoor Elevator**

## Manufacturers' Announcements

### New Rural and Suburban Radio Alarm Systems

The time lost between discovery of a fire in a rural area and the assembling of men and apparatus at the scene of the fire is often considerable. Finding a means of communication, contacting the proper individual to open the fire station and sound the alarm, all consume time.

Impulse Transmitter (Pull-Box) of Rural Radio Fire Alarm System

The Rural Impulse Alarm system, recently developed by Technical Alliance, Inc., 1711 Elmwood Ave., Buffalo 7, N. Y., is designed to meet this problem by conveying the exact location of the fire simultaneously to every member in the area. Small, self-powered radio transmitters, which the manufacturers call "pull boxes," enclosed in waterproof cases and strategically located throughout the service area transmit signals which automatically put in operation a fire alarm. Depression of a lever on the "pull box" emits a coded radio signal which is received at the unattended fire station. There the Impulse Alarm Control sets in motion a revolving drum and selects a contacting finger. This causes a siren to sound for twenty seconds followed by Klaxon code signals indicating the number of the "pull box". These signals are repeated three times.

The Klaxon signals may be repeated manually, should weather conditions render it advisable and/or necessary. The control, once started, is locked in to prevent interruption, if a second "pull box" should be actuated during an alarm.

In suburban communities there may be disadvantages incidental to the siren and Klaxon alarms, such as crowds gathering in the area through which the fire vehicles must pass. Moreover, under the present setup the fire station attendant in the event of first-aid calls may spend precious time summoning members of the squad by phone.

With the Selective Alarm System, high-sensitivity receivers are installed in the homes of key members of the fire department. These receivers are inoperative until the proper tone signal is received from the transmitter at the central station. The transmitter may serve several communities. It is operated from a control cabinet equipped with microphone and tone-selecting keys for placing any desired group of receivers in operation.

Upon receiving a fire alarm or first-aid call, the transmitter attendant first depresses the tone signal key which puts the receivers in the desired area in operation and alerts the department members. After ten or twenty seconds the tone signal key is released and the microphone used to broadcast instructions as to the location of the fire or first-aid call.

Impulse Alarm Control (Located at Fire Station) of Rural Radio Fire Alarm System

### Fire Hose Records

The Bi-Lateral Fire Hose Company, 20 No. Wacker Drive, Chicago, is again offering to fire departments a unique system of records, which enables the Chief to have at his finger-tips a complete record of every section of hose in his department.

This service was inaugurated by Clay Baird, Founder of the Bi-Lateral Fire Hose Company some thirty or thirty-five years ago.

The record consists of numbering each section with an individual number. When the men bring the hose back from the fire, the sections employed at this fire, whether used or not used, are listed on a sheet which is sent up to the Secretary's office, and the information recorded on a key-card, which each section has, and any other information is also recorded that seems important. At the end of a number of years, the Chief can determine the service given him by the hose. Fire Chiefs using this system have found many advantages. They have discovered where some sections remain too long at the bottom of the apparatus; it also gives the Chief a factual record on which to base his recommendation for the types giving him the most economical service.

### International Changes Name

International Industries, Inc., of Chicago have recently changed their corporate name to Phil-Mar Manufacturing Corp. Their present address is 6517 No. Clark Street, Chicago 26, Ill. The Phil-Mar Company manufactures electric megaphones which are widely used in the fire service.

### Battery Charger

Marquette Manufacturing Co., Inc., Minneapolis, Minnesota, announces the New Hi-Rate "Fleet" Charger Model 188. This dual purpose 6- and 12-volt 100 ampere charger is designed for fire apparatus, fleet owners, truck and bus operators. Just snap the switch for either 6- or 12-volt charging at full 100 ampere rate. The Marquette "Fleet" Charger has all the Hi-Rate features including 30 second test before charge. Shows exact charging time!

Hi-Rate "Fleet" Charger

### Electric Plant Catalog

A new 16-page catalog covering their complete line of Electric Plants is offered by D. W. Onan and Sons, Inc., of Minneapolis, Minnesota.

Magnesium Hose Bridge

In the October issue of FIRE ENGINEERING appeared an announcement of a new hose bridge, fabricated of magnesium, by the White Aircraft Corporation of Palmer, Mass. The bridge, which is 24 inches wide, weighs but 17½ pounds. Each bridge is equipped with a handle for carrying. The illustration shows two of the bridges in position to receive the heaviest truck load.

Attractively presented in three colors, this 8½ by 11 in. catalog, fully illustrated, gives helpful information and assistance in plant selection to potential users of Electric Generating Plants.

The catalog describes Electric Plant sizes ranging from 350 to 35,000 Watts A.C. in all standard voltages, frequencies and phases. If Direct Current of the "direct service" type is required, selection ranges in 115-volt models run from 600 to 10,000 Watts and in 230-volt models from 3,500 to 10,000 Watts. Battery Charging Plants are also described: 6, 12, 24, 32, and 115 volts in sizes from 500 to 6,000 Watts.

## New Foam System for Oil Pump House Protection

Protection of pump houses from fire, one of the oil industry's major problems because pump rooms and manifold pits are the nerve centers of petroleum plants' operations, has been effected by National Foam System, Inc., of Philadelphia, with a new unit which can operate independently of the main fire protection system.

With this new unit a blanket of foam approximately six inches deep over the entire pump house and manifold pit area can be laid in less than three minutes.

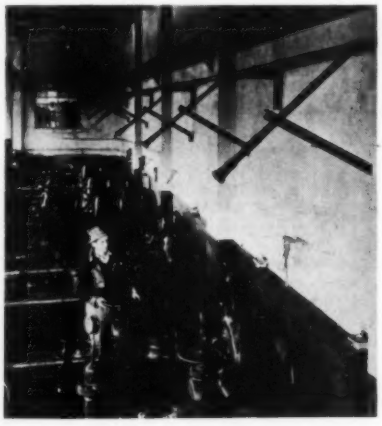


**Photo Shows Five Foam Makers Mounted, Complete with Overhead Spray Deflectors, as Installed in The Texas Company's Pump Room at Port Arthur, Texas. Each Unit Is Capable of Producing Approximately 270 Gallons per Minute of Foam Evenly Dispersed Over a Circle Approximately 14' Diameter. The System Is Designed to Operate for 2¾ Minutes, in Which Time Approximately 7½" of Foam Will Have Formed**

Because shutdowns due to fire may halt all production and stop deliveries while new processing equipment is obtained, The Texas Company in its Port Arthur, Texas, gasoline pump house installed this new system. It can be operated manually or, in cases where an attendant is not always on duty, mechanical operation is possible.

In the pump room at Port Arthur, the foam is delivered through overhead spray nozzles so as to cover the tops and sides of all pumps and other machinery in the room, as well as the floor area around and between the units. In the manifold pit, the foam is introduced through floor deflectors as any fire in this area would be at the level of or under the piping.

Several methods may be employed to produce the foam solution necessary for such an installation. Local conditions usually decide the method. In The Texas Company installation, a storage tank containing 80 gallons of National Aer-o-foam liquid and a rotary pump and motor with a capacity of approximately 29 gpm of foam liquid are provided. The pump takes suction from the liquid storage tank and discharges directly into the water stream—which is at a rate of 454 gpm at 100 psi. The resulting fire-fighting solution of 483 gpm consists of 454 gpm of water and 29 gpm of Aer-o-foam liquid, making a six per cent solution, which is piped to the various discharge outlets spaced to give coverage over the entire protected area.

In conjunction with the system installed in Texas, there is usually supplied a portable hose line with Aer-o-foam nozzle of 600 gpm foam capacity. This nozzle is connected to the water line before the proportioning unit and takes liquid from five gallon cans. The nozzle is valuable for mopping up purposes or for use in combating a small fire which does not require operation of the main system.

## Gustave Jacobs Joins Ward LaFrance

Gustave Jacobs, formerly of the American-LaFrance-Foamite Corporation has joined the Ward LaFrance Truck Div. of the Great American Industries in their New York branch. Mr. Jacobs has long been associated with fire apparatus sales and service.

## Changes Name of Extinguisher Line

The General Pacific Corporation, Los Angeles 5, Calif., have announced a name change for their line of fire equipment. The new name is General Quick Aid Fire Guards.

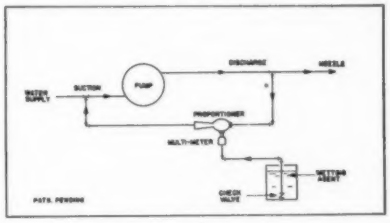
Five types of extinguishers are included in the Quick Aid Fire Guard line; Vaporizing liquid, carbon dioxide, foam, soda-acid, and non-freeze (Hi-Test soda acid and foam). Each is a rapid, efficient fire-fighter.

## New Proportioner for Wet Water

The value of water wetting agents as an aid in fighting many kinds of fires has been generally demonstrated. However, the only very serious handicap to the fullest utilization of treated water has been the difficulty of proportioning the right degree of wetting agent to the amount of water wanted for the particular fire fighting operation, where the treated water may be wanted in some volume, such as in connection with pumping operations.

To overcome this deficiency, the Aladdin Engineering Equipment Company, Fire Div., 156 East 42nd Street, New York, 17, N. Y., has introduced a new proportioner for mounting on any standard make of pumper and use with booster tanks or in drafting.

The general idea of the device itself, and its installation with check valves,




**Installation of Proportioning Unit**

meter and fittings, is shown in the accompanying illustrations.

The company claims that use of the Aladdin Automatic Proportioner will end pre-mixing and possible tank corrosion; provide complete freedom of movement; and give constant, exact proportions regardless of hose length. The device operates only when water is being discharged, and the wetting agent does not enter the water supply when the hose nozzle is shut off. It has no moving parts and is so constructed that water cannot back up into the wetting agent.

The company has prepared tables showing the proportioning action of the Aladdin Proportioner, at various pressures; these may be had upon request.

## Extinguisher Manufacturers Elect

Paul W. Eberhardt, Vice-President of Walter Kidde and Company, Inc., Belleville, N. J., was elected President of the Fire Extinguisher Manufacturers Association at their annual meeting.

George H. Boucher, Vice-President of the Pyrene Manufacturing Company, Newark, N. J., was named First Vice-President and Charles H. Stephens, President of the Buffalo Fire Appliance Corp., Buffalo, N. Y., was elected Second Vice-President. Everett Warren, Vice-President of the General Detroit Corporation of Detroit, was made Treasurer of the Association and R. Kennedy Hanson was appointed Secretary.

James O. Binford, Vice-President of the American-LaFrance-Foamite Corp., Elmira, N. Y., and Herman W. Diener, Vice-President of the George W. Diener Manufacturing Company of Chicago, were elected to the Association's Board

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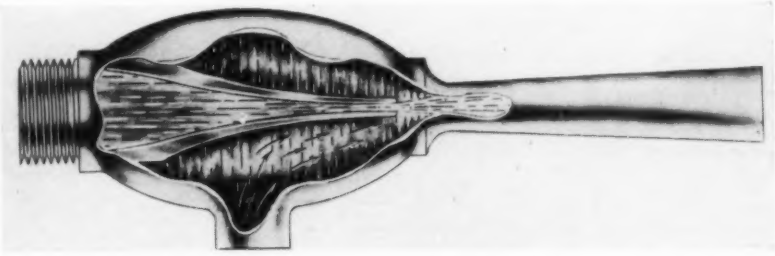
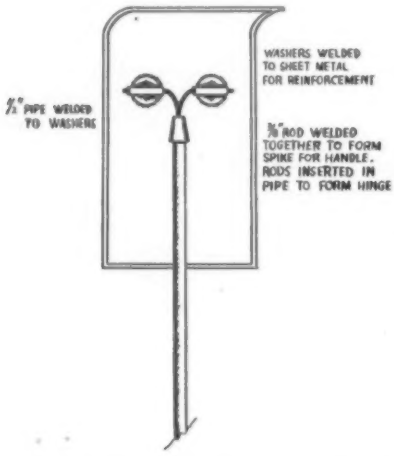


**Cross Section of Proportioning Unit**

# Short Cuts and Gadgets

## "FIRE SLED" A TIMELY GRASS FIRE "GADGET"

The following "gadget," offered by C. W. Tucker, Chief of the Huntertown Volunteer Fire Company, Huntertown, Ind., is particularly timely, in view of the interest being given field and forest fires.


WASHERS WELDED TO SHEET METAL FOR REINFORCEMENT
½" PIPE WELDED TO WASHERS
⅜" ROD WELDED TOGETHER TO FORM SPIKE FOR HANDLE. RODS INSERTED IN PIPE TO FORM HINGE

The "Fire Sled," according to Chief Tucker, was developed and is used by his company in controlling grass fires. It may be made from any light sheet metal; the one Huntertown uses is constructed from automobile body iron and is approximately 24 inches wide by 48 inches long. One end is curbed upward to form the sled, and if edges are rolled, the unit will be more rigid. Just forward of the center of balance, a hinged spike is fastened and to this spike is affixed a long rake handle.

According to Chief Tucker, his men have used this tool on fires in fairly level meadows where the vegetation is not more than 8 inches high. In use, the sled may be worked by using a backward and forward motion across the fire line; many times his boys have taken the sleds at a fast walk or run down a narrow but long fire line, leaving it completely blacked out, or with isolated spots of fire easily controlled by a follow-up man.

This "Fire Sled" was demonstrated by a team from the Huntertown Company at the 1946 Indiana State Fire School held at Purdue University.

* * *

## MORE ABOUT LIGHTS ON FIRE HOUSES

In the September, 1947, "Short Cuts and Gadgets" we published an idea for locating warning lights on the exteriors of fire stations. This has provoked some discussion and among the letters received we quote from that of Henry K. Miehe, St. Louis, Mo.

Mr. Miehe says: "I believe that the correspondent who originally sent you the information on the use of this type of warning system had reference to the City of St. Louis. All engine houses here are equipped with red lights facing traffic approaches and a high-pitched 110-volt motor-driven siren (these lights are very similar to the grade-crossing type that are used by the railroad). The lights and siren are automatically placed in operation by a switch located at the "joker desk." This switch is operated by the man on watch when an alarm is received affecting apparatus stationed in the house. The duration of time this warning is in operation is approximately 20-25 seconds (determined by timing of the switch) and it is very effective in clearing and stopping traffic. I might add that companies are well on the way before the siren and lights stop operating. A great majority of the fire departments in the smaller cities of St. Louis County also use this same type of warning signal."

"P.S. To go into further detail, in the event someone might be interested to know what type of switch is used for this warning: St. Louis uses a wind-type switch manufactured by a local company. It is actuated by turning a lever 180 degrees; this in turn winds a spring, much in the same way as the conventional fire alarm box. Upon release of the lever, contact is made for the sirens and lights until the time release turns it off."

* * *

## WATCH THAT OVERHANG!

Long ago we described a simple "gadget" for protecting the spiked ends of overhanging ladders, and of warning about the overhang, on service ladder trucks.

Now we hear further about it from Fireman Edward Roth, Larchmont Fire Department. He says: "Here is a sketch of a gadget we have had in use as a safety measure on the overhang of our city service ladder truck for about fifteen years. It can be made with very little material and labor, with many variations, by arranging the reflector buttons to spell out any desired word, such as 'FIRE DEPT.', 'STOP', 'DANGER', etc. By making small changes, it may be adopted almost any rig."

Thank you, Fireman Roth.

* * *

## TO SPEED SALVAGE

In order to speed up and ease the job of handling salvage operations, the Minneapolis Fire Department has equipped all its ladder trucks with a compact bundle, in which is packed two shovels, two squeegees and two brooms, all strapped together.

* * *

## CONCRETE VS. BLACK SURFACE

Our roving reporter has had occasion this summer to visit many fire schools. Most of the drill yards have concrete pavement which in hot weather absorbs heat and reflects the sun's rays, adding to the discomfort of men drilling.

One such school visited had a yard with black-top surface and the difference between it and the heat-absorbing natural concrete was noticeable. Incidentally, metal tools and equipment seem to absorb less heat from the black-top surface than the plain concrete.

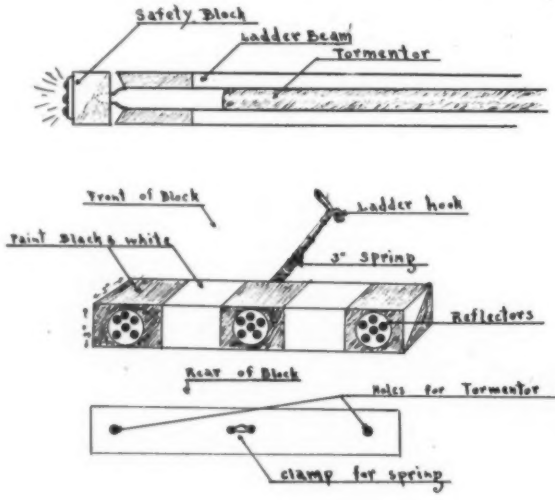
* * *

## *The Old Timer Says—*

Careless handlin' of tools at fires, and on the training ground can cause a lot of injuries. A crowbar, that had been used as a hoseholder, was left lying on the drill ground. A proby stepped backward on it, breaking his ankle.

An axe carelessly left so that its edge was exposed, badly cut a fireman. Another got a fractured skull when a plaster hook fell on him. It had been left directly in the way of passersby.

Careless use and handlin' of tools not only may cause injury, but it oftens means lost equipment. Firemen should be taught to be careful, and to be responsible for the return of their equipment, in good condition.




Safety Ladder Block – for Rear overhang.

E.R.Roth – L.F.D.

# The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

### In the Midst of Alarms

When a telephone call said the R. G. Williams home was on fire, Cambria, Wis., vamps headed their truck toward the Williams farm two miles away. They were almost there when a messenger caught up with them and explained the fire was at the home of another R. G. Williams back in Cambria. The firemen started back, but ran out of gasoline. When they finally arrived others had extinguished the blaze.

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About 200 people crowded about a Seattle home, according to press dispatches, attracted by a spectacular fire. The crowd milled restlessly for thirty minutes, wondering what was keeping the fire department. At the end of the half hour, it was found that no alarm had yet been turned in. Because of the delay, the roof had fallen before firemen arrived, and the house was destroyed.

The moral of these two examples is as plain as a plaster-hook: in the first place, don't rely on telephones for sending fire alarms. In the second case, don't rely on crowd psychology for action. Do it yourself, when it comes to sounding the toxin! And no matter how intelligent fire alarm systems may be, they take a little human cooperation!

* * *

### "Don't Do It—Taint For It!"

The volunteer fire department of Sharps Park, Calif., posted a notice warning that unauthorized drivers of the town's fire truck will be prosecuted. O. F. Tonella, board secretary, explained that "everybody in Sharp's Park wants to drive the fire truck—even those who can't."

Only last week, he said, an unauthorized driver took half the fire house to a fire—on the truck's bumper. (Thanks Don Matthews).

* * *

### Hot Off the Tape

Since Pearl Harbor, thirty-five members of the New York Fire Department have lost their lives on war fronts and forty-nine have died fighting fires in the city, according to Fire Commissioner Frank Quayle. Six members lost their lives in 1946, in line of duty. . . . In Olean, N. Y., firemen listed "cause undetermined" after investigating a report that crackling noises were issuing from a large maple tree. Splitting the trunk, they found that the apparently sound tree was hollow and steadily burning from within. . . . In New York City, two workmen who were painting signs reading "NO SMOKING" on a ship in New York Harbor were arrested and fined $50 for smoking while on the job. . . . In Des Moines, Ia., a fire chief's car, speeding through the streets stopped abruptly at an intersection. A fireman jumped out and grabbed a dog. Addressing the hound as "Smokey" the fireman ordered it into the chief's car. Back at the fire station, "Smokey" was given a lecture by the firemen on the evils of absenting himself from duty for three hours. "Smokey" is the station's mascot (thanks the several who sent this item). . . . With the thermometer goin' down its good to read that the Snow Shoe Fire Company, Snow Shoe, Pa., has added 29 names to its membership boosting to approximately 500 the number of firemen listed in that community. . . . In Chicago, residents of a two-story frame dwelling were aroused in time to flee a fire, which destroyed the structure, by an unidentified passerby who hurled stones through windows when he saw the blaze in a first floor apartment. Nearly 50 were made homeless. . . . Members of the newly organized Plymouth Volunteer Fire Department near Terryville, Conn., waited expectantly for their first call. Finally, after three weeks, it came. They rushed to Plymouth Lake where they rescued a cat stranded in a tree top. . . . Firemen of Wenham, Mass., returning from memorial Sunday services paused for a blaze that destroyed a dairy barn and fourteen heifers, with loss of $35,000. . . . In Milford, N. J., 6,000 chickens were killed by fire in a chicken house a short time after the farmer-owner was wounded in the arm by his own rifle in a scuffle with an intruder, who escaped. A "touch-off?" . . . In Los Angeles, Calif., 6,000 bundles of laundry went up in the city's costliest laundry fire—loss $750,000—considerable "wet wash!" . . . Near Mount Hope, W. Va., a trailer-truck loaded with 27,000 pounds of cheese caught fire and burned. Route US 19-21 was spread with a ripe welsh rarebit! . . . Six battalion chiefs of the New Haven, Conn., Fire Department, not satisfied with their 70-hour week, petitioned for return of their former 78-hour week, and had their wish granted. . . . Flaming gasoline from an exploding fuel tank on a power shovel severely burned 12 miners at a coal stripping operation near Punxsatawney, Pa. Cause—short circuit. . . . In Vallejo, Calif., firemen dashing to extinguish a grass fire found another company already on the scene. The earlier Brothers had set the fire to eliminate a dry weather hazard, and helpful neighbors telephoned an alarm.

* * *

### Earle Robinson Reports—

Earle Robinson, demon clipper of Des Moines, Ia., whose contribs have been missing for some months, resumes his scissoring with this issue. Here are a few current hot-clips—

OKLAHOMA CITY, OKLA.—Fire drills at Emerson grade school are so much fun that pupils pay to have them. The school installed a rotary metal escape chute, and now the kids can ride all they want to—at a penny a slide. The cash goes into a school lunch fund.

There's a F. P. Week idea for you!

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PHILADELPHIA, PA.— Fire box 2295 collapsed "from old age." But it turned in its own false alarm as a final gesture to notify firemen.

The box fell to the ground when the pillar supporting it snapped from corrosion. The box landed flat on its face, breaking the glass and turning in an alarm. All of which reminds us it doesn't do any harm to inspect the innards of *pedestals* as well as of fire alarm boxes themselves!

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COLUMBUS, OHIO—A 36-year old mother of four will be charged with arson, according to assistant state fire marshal Gayle Owens, after she admitted burning the family automobile to "keep my husband from running around."

Owens quoted the lady as confessing she poured two gallons of kerosene over the interior of the 11-year old car and touched it off.

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CEDAR RAPIDS, IOWA—After deliberating nearly 34 hours, a jury of six men and six women found Richard Le Mont, 34, discharged city fireman, guilty of setting two fires in the Hotel Magnus, Cedar Rapids, last June 9. There was a difference of opinion as to whether LeMont was suffering from "alcoholic insanity." He will be sentenced later.

* * *

### Bound Brook Remembers F. P. Week—'46

Bound Brook, N. J., is all for Fire Prevention Week—has been keener than ever for it since Fire Prevention Week, 1946.

Last year Bound Brookers concluded the F. P. Week celebration on a Saturday, with a spectacular parade of their fire department equipment, high lighted with bands n' everything. All civic associations were in line. 'Twas a gala occasion when the parade disbanded in a mass meeting in front of Borough Hall, where the importance of fire prevention was stressed.

That was Saturday. On Monday the Borough Hall was in ashes! Fire destroyed the police radio and the fire alarm system in Police Headquarters. the police had to run two blocks for the fire department. Water pressure was low, until pumpers arrived. This and the tardy alarm gave the fire a swell start. The origin of the disastrous blaze was never determined but was believed to be burning rubbish and leaves near the Hall.

Fire Prevention Week, this year was unmarred by catastrophe, in Bound Brook!

* * *

### Visitor Rings—Then "Bolts"

In Jamestown, N. Y., Mrs. Roger W. Cramer, hearing her doorbell clang, was—

1. Irritated at the prospect of an unexpected caller during a thunderstorm, when her husband was away
2. Annoyed at finding no one at the door
3. Suspicious when she smelled smoke
4. Apprehensive while she awaited the fire department
5. Relieved to hear that the damage was slight
6. Surprised to learn the 'visitor' had been lightning—which had rung the bell—and "bolted." (Thanks J. K.)

* * *

### Sort of "Chain" Reaction

In Beverly Hills, Mo., the Leslie Whites had a loud week-end: First, a quart jar of gooseberry preserves blew up; next, three cans of date pudding blew their top; finally a gallon jug of gasoline, exploded, which touched off a hundred 22-gauge shotgun shells and a thousand 22 cartridges.

Deponent saith not what the Brothers said when they were called!

# FALSE ALARMS

A business man's wife walked into her husband's private office, unannounced. She discovered her busy husband eating his lunch at his desk—while his beautiful secretary was parked on his lap.

"Charley!" stormed the wife. "What is that girl doing on your lap?"

The guilty business man almost choked on a chicken leg. He pointed to the food.

"I had to do something, darling," he alibied. "The waiter forgot to bring up a napkin and I just had to have some protection for my new suit!"

---

"Sister," said the deacon severely, "you should avoid even the appearance of evil."

"Why, what do you mean?" asked the woman anxiously.

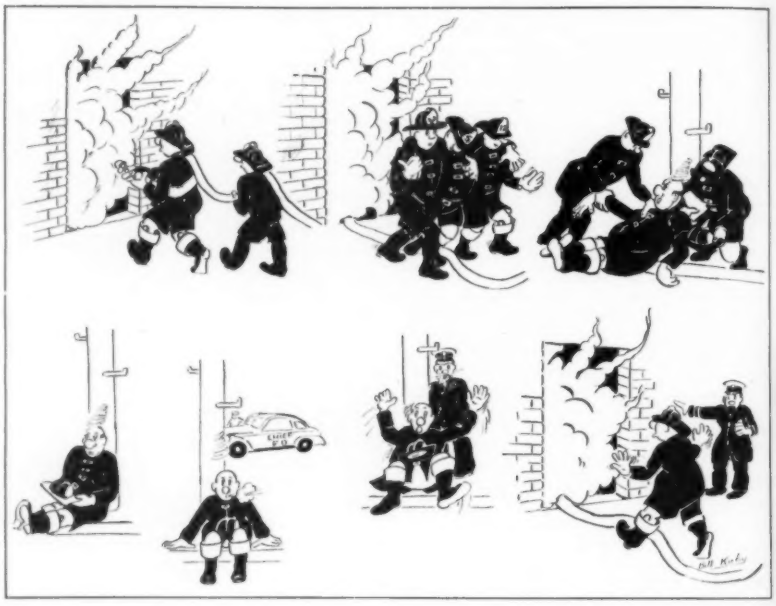
"I observe," he said, "that you have on your sideboard several cut glass decanters, and that each is half-filled with what appears to be ardent spirits."

"But deacon," she protested, "it isn't anything of the kind. The bottles look so pretty on the sideboard that I fill them half-way with a mixture of floor-stain and furniture polish, just for the sake of appearances."

"That's why I'm cautioning you, sister," said the deacon. "Feeling a trifle faint, I helped myself to a dose from the big decanter in the middle."

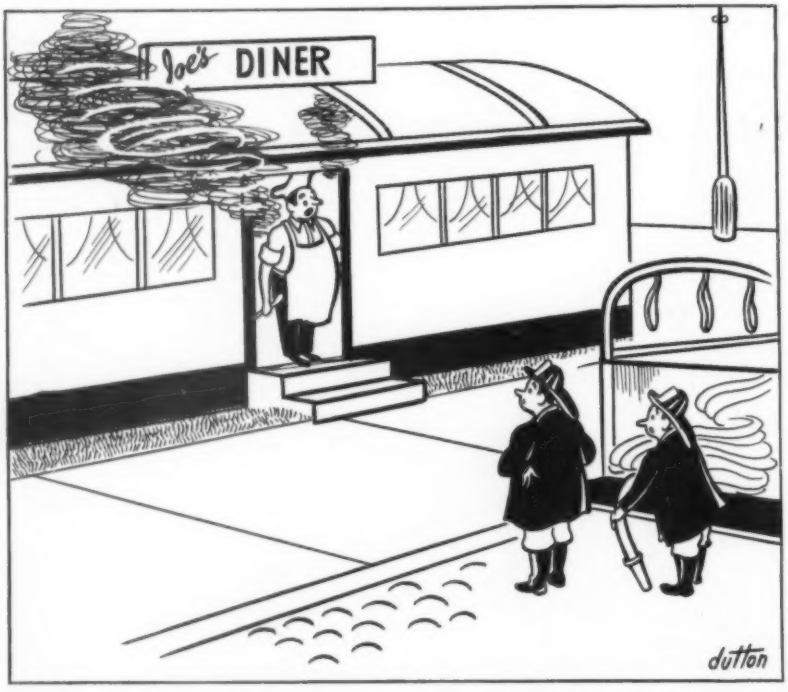
---

The big store exec had an important long-distance call. He needed a copy of a telegram of a few days back, so he called his youthful sec'y.



"Get me the such-and-such wire," he barked.

The girl paled. "Was it long or short?" she finally got out. This question stumped the boss at first, but then he recalled that it had been lengthy. The girl immediately found it in her file. When the exec finished he demanded to know why she had asked for the length, and made the sad discovery that she was filing mail in this fashion: long correspondence, short correspondence, middle-sized correspondence.—Carl Guldagher, Chicago Daily News.




"Who Reported a Fire Here? That's Just a Customer's Well Done Steak!"

---

A successful industrialist's wife was engaged in a very heated bridge game with three other high society women. The stakes were large and the players were concentrating on their hands when the colored maid in the industrialist's household edged over to her mistress.

"Mrs. Smith," she said, "it's four-thirty which is time for your bath."

Still keeping her eyes on the cards, the mistress turned to the maid, "Really, Gloria, I can't leave the game just now. We must pass up my bath today."

"But, Mrs. Smith," objected the maid, frowning, "this is the twelfth day you have passed it up."

---

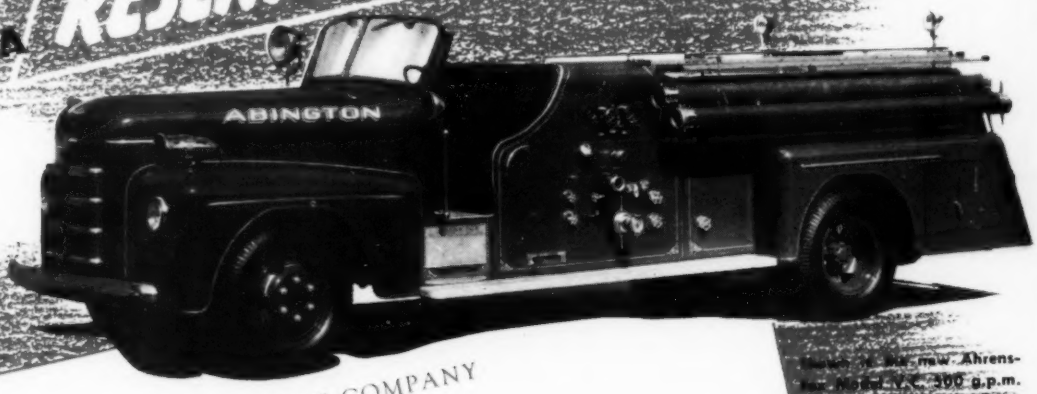
A man with a gun on his shoulder was walking down the street the other day, with his dog. An automobile approached. The dog ran directly in front of the car and was killed. The motorist stopped and expressed his grief to the owner of the dog, and took a $20 bill from his pocket and said: "Here, take that. Will that pay for losing your dog?"

"Oh, yes," replied the man, "everything is all right, I was taking him out to shoot him, anyway."

---

Two buzzards were lazily soaring over the desert when a jet-propelled plane zipped by them, its exhausts throwing flame and smoke. As it whizzed out of sight, one of the buzzards remarked: "That bird was really in a hurry." You'd be in a hurry too," sai[illegible] other, "if your tail was on fire."

# ABINGTON'S NEW AHRENS-FOX PUTS ON A RESERVE POWER PERFORMANCE!




Bell Telephone
Ogontz 5230

ABINGTON FIRE COMPANY

ABINGTON, PA October 20, 1947

The Ahrens-Fox Fire Engine Corp.
4932 Beech Street
Cincinnati 12, Ohio

Gentlemen:

We are very well pleased with our new Ahrens-Fox model VC 500 gallon triple combination pumping engine, which has just been delivered this week, and has passed all requirements tests.

We wish to congratulate you for the fine engineering of this unit, good workmanship, performance, and ease of operation. This fire company was amazed to witness that, on all tests, almost one hundred percent reserve in pump performance was shown. In drafting water the following results were obtained:

510 gallons at 151 lbs. pump pressure 1695 RPM
370 " " 200 " " " 1453 RPM
254 " " 252 " " " 1550 RPM

While the above are the underwriters' requirements, the following was observed at wide open throttle:

1030 gallons at 120 lbs. pump pressure 1670 RPM
900 " " 150 " " " 1750 RPM
450 " " 300 " " " 1700 RPM

All above tests being made at moderate engine speeds and well below the eighty percent motor revolution peak.

At the time we considered the purchase of this apparatus, we looked over different makes, following which, our company unanimously voted Ahrens-Fox because we found that the Ahrens-Fox engine was the sturdiest built, best in appearance and workmanship on the market. We have in service an Ahrens-Fox pumper since 1922 which has never failed to answer an alarm and has rendered wonderful service.

In accepting this apparatus with great pride and satisfaction, we heartily recommend the Ahrens-Fox product to all prospective purchasers.

Very truly yours,

Philander S. Nickles, President

C. Earle Willett, Chief

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*rely on* **AHRENS-FOX**

**THE AHRENS-FOX FIRE ENGINE CORP., CINCINNATI 12, OHIO**

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Consideration
Ask any Fire Chief what the prime consideration is in a fire pump. Chances are he'll reply, "Dependability!" For he knows from actual experience that dependable pumping equipment is the "heart" of any firefighting apparatus.
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You'll want to compare the many features and advantages of Waterous Fire Pumps . . . ask for your free copy of the illustrated Waterous catalog. Pictorially presented, it is easy to see why Waterous pumps are standard equipment on so many leading makes of apparatus.
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Dependable
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FIRE PUMPS
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## Forest Fires

(*Continued from page 793*)

Conservation or Forest Services) were able to maintain direct two-way radio communications with ground-force fire fighting personnel.

In general, planes were widely used for (1) transportation of personnel and materiel for fire-fighting, medical and relief operations; (2) observation and reconnaissance; (3) communications and photography; (4) directing fire-fighting and evacuation operations, and (5) general emergency transportation.

### Air Bombing Not Tried

Thus far, no report has been received of any effort to employ two of the most modern, scientific developments in forest fire fighting, water and chemical bombing of fire, and rain-making by means of "dry ice."

It is easy to understand why "rain-making" was not attempted in the initial days of the eastern fire: it is said there were no clouds over the affected area at what would have been propitious "rain-making" periods; and without clouds which the rain-makers "bomb" with $CO_2$ to make them give up their moisture, exponents of this newest method of weather-making were balked.

Perhaps as this is written, the Forest Service or some other agency is attempting to put into operation in New England the experience garnered in its years of experimenting with water and chemical bombing of forest fires. Certainly the magnitude of the New England fire control operations would seem to have offered broad opportunity for such application.

For those who may not be familiar with this method of attacking forest and field fires from the air, the following may be of interest.

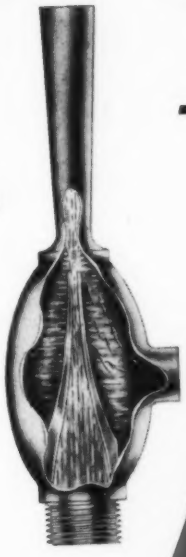
Over fifteen years ago Howard Flint, then U. S. Forest Service chief of control in the northern region, pushed a beer keg full of water out of an airplane flying above Felts Field at Spokane, Wash., to determine the ground area that would be covered by the resulting splash. That crude test, and later experiments with other types of containers and extinguishing agents, both liquid and powdered chemicals as well as water, were none too promising. They did indicate that to be effective the aerial technique would require larger bombs with good ballistics, airplanes with larger carrying capacity and precision bombing equipment.

World War II brought about these developments and last September three government branches, the Forest Service, Army Air Forces and Bureau of Standards joined in a series of further experiments which eventually, it is hoped, may save thousands of valuable acres of timber. They attacked test fires with water and chemical bombs, blasting at them with B-29s and P-47s in otherwise inaccessible terrain.

According to "American Forest" magazine (organ of the American Forestry Association), "results of the tests were so successful that it was planned to continue the project on an operational basis on actual fires.

Participating in the experiments was a group of World War veterans, as parachutists, bombardiers, pilots and plain, slogging, ground fire fighters, for the tests included all elements of forest fire control, ground as well as aerial.

THE aladdin PROPORTIONER



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Aladdin's handsome design and finish — and dependable action will make your department proud to own one.

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2—Ends cumbersome pre-mixing.
3—Constant, exact proportions — in pressures ranging from 30 to 125 PSI.
4—No moving parts.
5—Allows complete freedom of movement.
6—Can be shut off when clear water is desired.
7—For booster tanks, & drafting water.
8—Easily installed on your present equipment.
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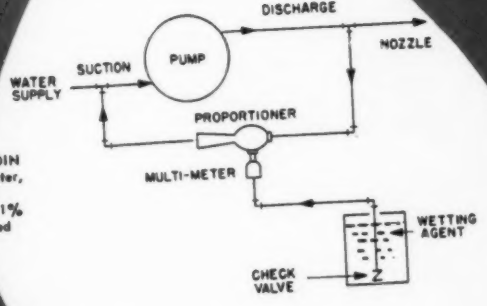


Aladdin Proportioning Assembly includes Aladdin PROPORTIONER, Multi-Meter, Check Valve and fittings and connections. Set for 1% solutions. Can be adjusted for other solutions.

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BRIGGS & STRATTON CORPORATION
Milwaukee 1, Wisconsin, U. S. A.

During the test held on the Lolo National Forest in Montana, for the first time water bombs with proximity fuses were dropped on a forest fire. This experimental blaze was set in an area of typical rugged mountain terrain, where bombing from the air would prove most valuable in forest fire suppression. Eight water bombs—converted auxiliary fuel tanks of 165 and 310 gallons capacity—were dropped on the head of the fire from a Boeing B-29 Superfortress. As the bombs burst just above the fire and scattered their extinguishing load, other planes arrived on the scene to drop "smoke-jumpers" with equipment to enable them to complete the task of controlling the blaze.

During the tests, Forest Service men manned a tiny field station for radio control of operations, which were observed by many representatives of government and other agencies interested in fire control, and the press.

Two P-47 Thunderbolt fighter planes made gliding bombing runs on the target, dropping 165-pound water-filled tanks equipped as contact bombs. The wave of mud and rocks thrown up by the blasts engulfed most of one of the fires. Then the big B-29, the "Rocky Mountain Ranger," was called in to attempt to hit the target with a thin-shelled, 4,000-pound, water-filled proximity bomb. Although the fire was not completely extinguished, it was good bombing, and it proved what could be done.

Following the B-29 came an old Ford tri-motored training plane used to instruct parachutists for the Forest Service. From this ship, personnel and fire fighting equipment were dropped by parachute to quickly complete the fire extinguishing operations.

This is the way the Forest Service reaches lightning fires in the jagged mountainous terrain. The Forest Service points out that this procedure of aerial bombing is not intended to replace conventional fire suppression methods. Rather it will serve to supplement them. Its use is expected to speed up fire control, especially when there are a large number of blazes at the same time in a given area, when conventional attacks on hot-burning fires are ineffective and when inaccessibility by other methods would make fire fighting too dangerous to ground fighters and too costly or too slow.

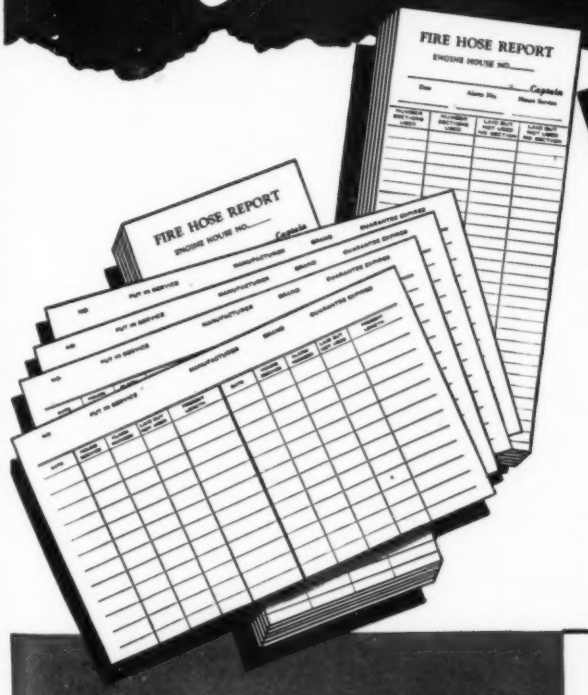
The principal objective in the use of aerial bombing is to knock down and retard the spread of small, hot fires, before they can make disastrous runs. This will allow smoke-jumpers or ground forces to move in and control the fire.

The U. S. Forest Service is also not overlooking the possibilities in the use of helicopters as an effective facility in this type of fire control. Air rescue and forest fire experts have conducted numerous tests in Angeles National Forest, California, and elsewhere to determine the ability of the helicopter to drop fire-suppressing materials and personnel—and even "fire bombs" from the air. In the latter case, the limit of the "pay load" is not overcome by the greater bombing accuracy possible with such an aircraft.

The helicopter, however, has already proved a most valuable aid in rescue work, and in enabling the trained fire-fighter and his kit to get closer than ever before to the key spots on the fire ground in one hop.

# Free!

## FOR ALL FIRE CHIEFS




**FIRE HOSE REPORTS**

**FIRE HOSE RECORDS**

Many leading fire departments have found these forms useful and valuable for these reasons:

They give the Chief an exact comparative record of performance of different brands of hose.

They prove by actual record which brand is best.

They show up cheap hose and why it is too expensive to use.

They show how long some sections of hose are allowed to remain at bottom of apparatus.

They give the Chief a factual, actual record on which to base his recommendations of preferred brands.

You will find these forms invaluable in your department. We again are offering them to all Fire Chiefs as a free service. There is no charge or obligation. Mail the coupon for your supply.

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Without charge or obligation send me the following:

_____ Pads of 50 Fire Hose Reports

_____ Fire Hose Records (5" x 8½" cards)

Name_____

Department_____

Address_____ A

The fire service is awaiting with interest the full report of these and later tests in which it is said not only water but chemical bombs were used, the latter of from 150 to 500 pounds. It is quite ready to accept the Forest Service's injunction that "bombs away!" may soon have a peacetime application in the nation's forest fire control.

## Underwriters Warn Against Cut in St. Louis Firemen

A critical situation has developed in St. Louis, Mo., it is reported, as a result of Mayor Kaufmann's order to Fire Chief Frank Egenreither to slash his department's expenses $386,000 in an effort to wipe out a threatened city deficit of $4,750,000. The cut, according to the Chief, would mean a layoff of 100 of the city's firemen.

Instead of reductions in the city's fire defenses, the Insurance Board of St. Louis recommends additional fire apparatus and more men.

President Russell E. Egan of the AFL Firefighters Local 73, St. Louis said there are 877 firemen in the city today as compared to 980 in 1931. Thirteen fire companies have been discontinued in recent years.

The Insurance Board warns: "with present firefighting equipment and personnel inadequate to protect the city from conflagration, the layoff of 100 city firemen would be catastrophic."

Meanwhile Director of Public Safety Charles J. Riley advocated passage of an ordinance to require owners of virtually all buildings of three or more floors to employ licensed fire wardens, because of probable curtailment of the fire department's operations.

## New Station for Bridgeport

With the raising of an American flag in memory of George F. Kaimer, former Bridgeport fire captain who died in 1946, the new No. 15 fire station on Evers Street, Bridgeport, Conn., was opened on August 5 with appropriate ceremonies.

The new fire station, erected in 1945 at the cost of $41,243, has been unused until now because of a manpower shortage in the Fire Department. Recent appointment of 11 men made possible the opening of the station.

Mrs. Cletus M. Kaimer, widow of Capt. Kaimer, presented the flag to the firemen as a memorial to her husband. Fire and City officials attended the flag raising ceremonies.

The new station is a two-story structure of Colonial design, trimmed with limestone, 36 feet, four inches in width and 75 feet in length, with a slate roof. The brick is selected red, laid in Flemish Bond with black headers.

On the first floor is located the fire apparatus, a 600-gallon pumper, the house boiler and kitchen facilities. Also on the ground floor is the hose tower extending to the roof and holding 1,500 feet of extra 2½ and 1½ hose. Near the rear of the apparatus floor is the watch desk, tape and register, and the Talk-alarm, for receiving box alarms. The floor is of concrete with glazed tile wainscoting extending six feet above the floor and around the jambs and heads of all windows and doors.

The doors are of the roll-up type with manual operation. On the second floor is the dormitory with sleeping accommodations for nine firemen, two officers' rooms, recreation room, locker room with toilet and shower facilities.

TOM MAGNER.

## September Fire Losses

Fire losses during the first nine months of 1947 totalled an estimated $517,982,000, destruction equivalent in money value to 16 disasters such as the Texas City catastrophe last April, it was announced by the National Board of Fire Underwriters.

Estimated fire and lightning losses during September totalled $47,990,000, an increase of 19 per cent over September 1946, according to W. E. Mallalieu, General Manager. September's losses appeared to have reversed the seasonal upward trend of fire waste, however, by decreasing 6.5 per cent from losses of $51,359,000 in August.

September's losses brought the total for the past 12 months ending September 30 to $660,890,000, the highest fire loss ever recorded in a one-year period in American history.

The total for the first nine months of 1947, $517,982,000, is 23 per cent higher than losses of $418,579,000 for the corresponding period last year.

These estimated losses under fire insurance policies are on an incurred basis, including an allowance for unreported and uninsured losses.

QUAKER MODERN MUNICIPAL FIRE HOSE

Provides 1/3 more protection

**How can a fire hose fold thin and "flat as a pancake," yet be tough and sturdy? Quaker has the answer—EASY-FOLD construction!**

**Quaker Modern Municipal Fire Hose folds flatly, handles easily, yet it's a brute for strength. Compact packing allows ⅓ more footage into truck beds, assuring extra protection and fighting power.**

**Specially-designed looms carefully weave the sturdy cotton yarn jackets encasing the tough rubber tube for high resistance to bursting, abrasion, severe service. When fire strikes, it pays to have dependable Quaker Fire Hose on the job. Take a tip from countless cities, communities, and industrial plants that rely on Quaker for extra safety, and economy. Better check your supply and order some today. Fires won't wait!**

*"If there's a way to get it done . . . Quaker will do it"*

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NEW YORK, CHICAGO, PHILADELPHIA, BOSTON, CLEVELAND, MILWAUKEE, ST. LOUIS, SEATTLE

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## SMALL CITY AND TOWN FIRE DEPARTMENTS TOO

HAVE FOUND THERE IS NO EQUAL TO MARS SIGNAL LIGHT

**Here Are the Names of a Few of the Hundreds of Small Cities and Towns**

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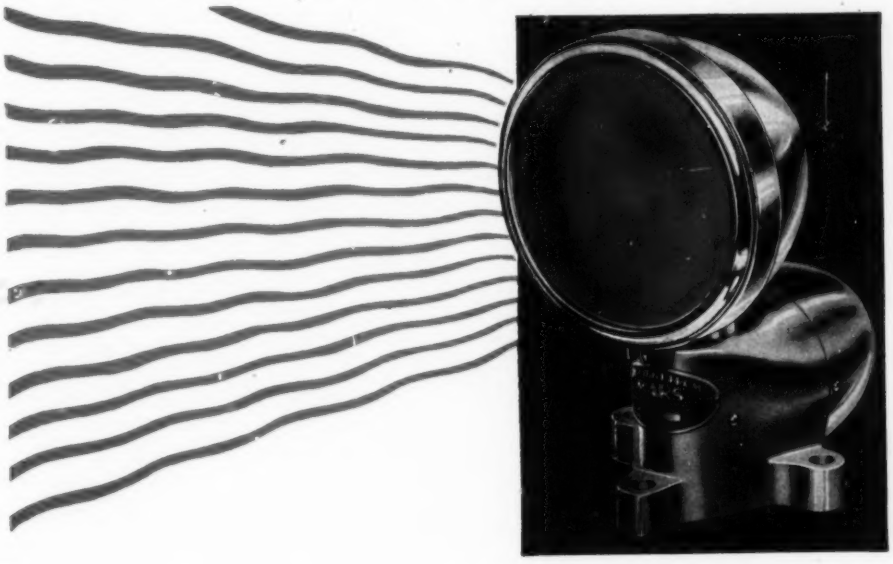

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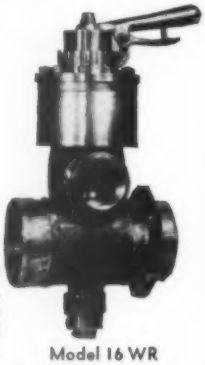

Model 16 WR

Pressure range 20 lbs. to 300 lbs. furnished with heating jacket.

FIRE ENGINE RELIEF VALVE
WR TYPE 300

MODEL 22 RWR TROJAN

All Bronze — Internal Pilot operated. Capacities 0 to 1500 G.P.M. at 120 lbs. pressure. Pressure Range 20 lbs. to 300 lbs. and 20 lbs. to 750 lbs.

HOSE VALVES FOR PRESSURE REDUCTION

ALL BRONZE construction Internal Pilot

Sizes
2½ x 2½ inch
2½ to 3 inch
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P. O. BOX 595 TROY, N. Y.

For Practical Discussion of Current Fire Department and Fire Management Problems

## RECORDING TELEPHONE ALARMS

THE automatic recording of telegraphic fire alarms is nothing new in fire alarm communications. Recording of voice alarms and audio conversations, both wired and radio, is however, comparatively new.

Prior to World War II it was not permissible to operate recording devices in conjunction with telephone switchboards, and equipment for recording and replaying recorded messages was complicated and costly.

In the past twelve months a number of devices for effectively recording communications — both wire and air waves, have been developed. Most of these are suitable for use in the field of fire service communications.

In keeping with its policy of bringing its readers up to date on scientific improvements in and relating to the fire service, FIRE ENGINEERING invited a representative cross-section of its subscriber-family to submit their beliefs and opinions on the recording of telephoned fire alarms.

The responses for the most part indicate a favorable acceptance of the development. In some cases those replies quite evidently have not thoroughly understood the question, or the device in question, or they have only a superficial idea of its application.

Perhaps our question was somewhat misleading in that it did not mention all the advantages possessed by the recording machine for preserving not only the voice-notification of the fire or other emergency, but of recording the details connected with the telephone or radio notification of the respective fire forces, and the receipt and transmittal of audio information and instructions via radio, and so on. Another thing — few correspondents appear to have any conception of the possibilities for applying sound recorders in catching and convicting telephone false alarm senders.

At a later date, when more of the fire service have had opportunity to further evaluate this modern communications improvement, the editors may reopen the question.

Readers are invited to send in their comments on this subject and on next month's subject which is described in a box on a subsequent page. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

**E. P. Feaster, Chief, Lincoln, Neb.:** I believe that recording telephone fire alarm conversations would be beneficial to the fire department, inasmuch as you would have a complete record on file that would answer any question that might arise in regard to misstated addresses. You would also be able to check the accuracy of a telephone operator. It would be hard for anyone to "pass the buck."

We have had cases in our city where we were sure with a triple check that we were right, but individuals claimed that they gave the right address. A recorded conversation would prove conclusively who was right.

**W. B. Sykes, Chief, Portsmouth, Va.;** I believe that such recorders would be very useful in cases where the person sending in the call was excited and would hang up his phone before the fire department's dispatcher could make sure that he had the correct location.

If the dispatcher was not sure that he had received the message correctly he could play the record back on the machine before dispatching engine companies.

**Thomas C. Hickson, Chief, Dubuque, Ia.:** I do not see how the recording of telephone alarms could benefit the fire department.

After receiving an alarm, there is nothing to do but answer it.

If the alarm has been received wrong, the record would be wrong. We check back through the telephone company to the party turning in the alarms, and in that way can verify if the alarm has been received right. If not, it is put out over radio to companies so that the right location can be known.

**J. W. Smyth, Chief, Springfield, Mo.:** This would be beneficial in cases of a

### HERE IS THE QUESTION

**Several types of apparatus are today being manufactured for automatically recording telephone conversations, such recordings thus being available for reproduction whenever, and as often as, desired.**

**Do you believe the recording of telephoned fire alarms in this manner would prove of benefit to the Fire Department? In what ways?**

# Now in Use Coast to Coast!

## FIREMEN'S

# SAFTI-SHIELD

(PATENT NO. 2421427)

MSA or Cairns Flintflex Helmets

Position Changed by Flip of Hand

- *Designed and Adapted for Use on Any Make or Style Fire Helmet*
- *You Can Attach Safti-Shields to Your Helmets Easily and Quickly*

(Simple Directions Accompany Each Shipment)

Made of PLEXIGLAS, the tough HEAT RESISTANT material that will not shatter and is clearer than glass. INTENSE HEAT WILL NOT PENETRATE the Plexiglas.

Against cold wind, sleet and snow, the SAFTI-SHIELD will not ice up to obscure the vision.

REDUCES FIRE LOSSES because it enables the fireman to get closer to the base of the fire SAFELY.

## THE SAFTI-SHIELD

*Is A Definite Necessity in Firefighting!*

Ask your fire equipment distributor to demonstrate this sensational face and eye protector!

As Adapted to Cairns Aluminum and Leather Helmets

Protects the face and eyes against heat, cold, sparks, flying debris, water, chemicals.

Will not discolor with use.

Is easily cleaned with soap and water or kerosene.

Weighs only 14 ounces — made of Plexiglas and Aluminum.

**ORDER** as many SAFTI-SHIELDS as you like and learn for yourself, as others are doing, the positive protection SAFTI-SHIELD gives the face.

**DISTRIBUTORS:** A few territories still available. Write us—NOW!

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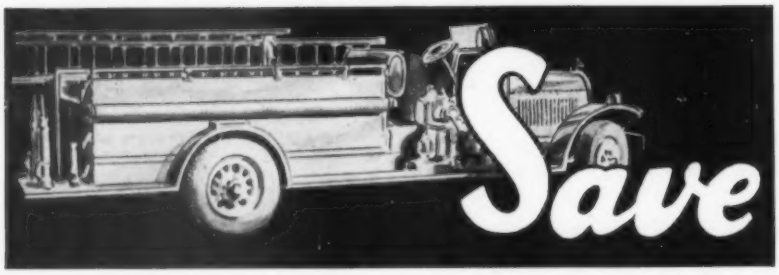


your TRUCK PUMPER

The Dual Fire Fighter will pay for itself many times over in saving of costly damages to the truck pumper.

Don't use your expensive motor truck pumper for dewatering purposes. Repairs are costly. And you may lay up valuable fire fighting equipment when badly needed.

Let the Dual Fire Fighter take the dewatering rap. Any damage to this husky little pump is quickly and cheaply repaired with common tools.

As a booster pump it is invaluable. -- It relays water to the truck pumper from places difficult to reach. It is easily carried by two men (weighs only 155 pounds).

Fight fires direct with the Dual Fire Fighter when you can. Again, you'll save wear and tear on the truck pumper. And you'll keep it ready for other emergencies. Write for bulletin FD-3. Some territory open for live distributors.

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*Great American Industries, Inc.*
ELMIRA, NEW YORK

controversy in instances where someone gave the wrong address during their excitement, or gave the wrong information about the fire.

**Leo J. Urbanski, Chief, Saint Jospeh, Mo.:** In my estimation, recordings of fire alarms received would prove of value in two respects, that is, providing the cost would not be too great. It would definitely record the location given to the department operator by the person turning in the alarm. Secondly, it would also record the conversation by the operator. In this latter recording, any mistakes made by the operator would appear and corrections could be made for the receipt of future alarms.

**Ira Leech, Chief, Decatur, Ill.:** I believe the recording of telephoned fire alarms would prove of benefit to the fire department, but in our city the question is the cost. We have so many places to put our money that such an installation would be out of the question.

**James Louis McLane, Chief, Charleston, W. Va.:** In my opinion, the recording of telephone conversations would be valuable to the department, particularly when the wrong location is given.

In some cases the fire will be on one street and due to excitement, the call will be on another street. This would protect the operator who is responsible for taking the call. In other cases similarity of street names, avenues and streets are confusing. This would put the blame where it should be.

**William T. Shaw, Chief, New Britain, Conn.:** I believe the recording of telephone fire alarms would prove of benefit to this department. Approximately 82 per cent of all our fire calls are received over the telephone and the possibility of error in location always exists. With a recording of the message received, definite responsibility can be fixed in case of such an error. It would seem to me that such a record is as important as the record of bell alarms.

**F. A. Steffens, Chief, East Cleveland, Ohio:** The recording of telephoned fire alarms in this manner, as I see it, would only be advantageous insofar as the verification of location when alarms are received is concerned.

**F. L. Crouse, Chief, Huntington, W. Va.:** I believe that a recording is very important in a fire alarm office as this will eliminate the possibilities of an operator saying that the one reporting a fire gave the wrong number; also it will give on the recording just what went on. And this way, I believe, will do away with some mistakes on the part of the operator and also protect him from their mistakes.

**A. McMarsh, Chief, Columbia, S. C.:** Up to this time we have not seen that the recording of fire alarms would be of any benefit to us in connection with false alarms or checking messages.

Our system is a double check with an extension phone on all messages coming in. The system allows one man to listen to the message while the operator is taking it down. With our set-up we seldom make a mistake.

**Charles E. Lane, Chief, Great Falls, Mont.:** This recording of telephone fire calls is a very good thing to be referred to in case of wrong address,

## HERE IS THE QUESTION FOR THE NEXT ISSUE

1. **Do you hold special schools or training sessions for officers—apart from schooling and drilling given the rank-and-file?**
2. **Do your officers receive any reward or credits for taking this training (or attending officers' school)?**
3. **If so, how is this handled? On what basis?**
4. **What suggestions have you for furthering officer training to (1) improve their efficiency (2) keep officers from getting in a rut?**

which often happens. It would be proof for the operator if there was any doubt. We have had in the past members penalized when they gave the wrong address. I don't think it was right. The party on the other end of the line swore she gave the right address and the Chief took her word instead of the operator's.

**William D. Thomas, Chief, Binghamton, N. Y.:** I believe the automatic recording of telephone alarm conversations would be a great benefit to a fire department in many ways. Especially when a telephone alarm is given and there is a question about it afterwards as to just what the one phoning the alarm claims to have said about the fire, such as stating whether an automobile is located in the street, driveway or garage. Also, sometimes in the past people have said that they gave an alarm for such and such a number of street and also to the extent of the fire. These are but a few of the things that have happened in the past and there have been questions about them and had there been an automatic recording of the telephone conversation it would have eliminated any question as to just what was said. The automatic recording of the time of a box alarm on the indicator tape has helped in many instances, proving as to what the time was when the box was pulled.

**C. L. Cox, Chief, Durham, N. C.:** Perhaps the use of automatic conversation recording systems for the fire service would be of benefit for the following reason:

To verify correctness of call to determine if a mistake (if any) was on the part of fire department operator or person making the call.

I am sure every department has received calls that were more or less incoherent, some evasive, some in broken English, some from highly excited persons, and some very clear but with the intention of giving a false call. Either of the first four instantly creates a condition which the dispatching officer hates to see come up. Not having received clear and approximately correct information puts

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Eureka Oxygen Bomb Test scientifically proves the aging qualities of the hose lining, makes sure it will remain smooth and uncracked. Effective prevention of all known forms of mildew is provided by Eureka's exclusive "Formula X."

**EASY TO HANDLE**... Eureka will not buck or "run amuck." The Balanced Weaving and patented Controlled Curing eliminate excessive writhing, permit easier handling on ladders, on the ground, or when loading in the wagon.

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*Division of United States Rubber Company*

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The new, improved Stephenson Resuscitator has many exclusive advantages. Among others . . .

(1) The Stephenson is the only resuscitator that permits the use of lower pressures. This is of vital importance when there are chest injuries.

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The Stephenson Resuscitator performs FOUR functions:

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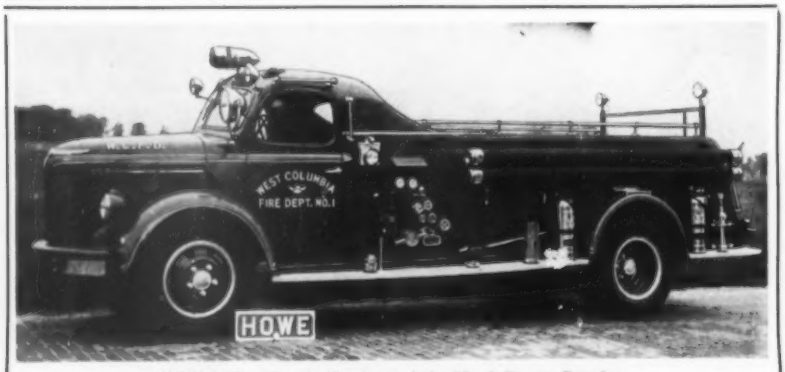



HOWE Fire Truck Equipment to Meet Every Service
*Established 1872*
HOWE FIRE APPARATUS COMPANY, 1402 West 22nd Street, Anderson, Indiana

him in a position where he has no alternative but to dispatch the maximum equipment and personnel to cover a designated area or building. Under these conditions a portion of such calls have proven of minor importance. Then on the other side of the picture is the time a call is received and very little importance is attached to it but turns out to be a four alarm fire.

If the equipment can be used so that any recording can very quickly be reproduced, it may serve a purpose to help clarify any given call before any apparatus is dispatched. Also, the recording might prove of value as evidence in court.

**R. C. McRonald, Chief, London, Ont.:** In my opinion, a recording of telephoned fire alarms would be of no advantage to this department, inasmuch as throughout the last several years the number of mistakes has been practically negative. It would mean extra expense and upkeep; also storage space would be needed for the records.

We have had very good success with our present system of recordings in books and have no reason to believe that a mechanical device could prove as reliable as human intelligence.

**James Thompson, Jr., Chief, Irvington, N. J.:** The recording of calls for emergency response would prove beneficial in instructing telephone dispatchers in their duty. Aproximately 65 per cent of the people in this community are foreign and during excitement in some cases, we have responded to the wrong location.

On the other hand, where calls of the same nature were supervised by an experienced telephone company operator, response has invariably been correct.

Other than the above use I cannot see any value unless to take into court to prove a point regarding accusation of inefficiency of the department.

To reproduce the call to the responding apparatus would confuse the men due to the variance of voices.

To play back a record after a wrong response surely does not correct, but may, as mentioned before, prevent a recurrence.

## Fire Pension Fund Matures

According to City Treasurer L. L. Ledbetter of Charlotte, N. C., who is also treasurer Retirement Trustee Board, the capital fund of the Charlotte Firemen's retiring system has been built up to a point that will permit eligible members to start drawing pension benefits before the end of next year.

Treasurer Ledbetter says that the money already accrued to the fund through State rebate, local contributions, and the money to be received from the Firemen's Relief Fund, will total $150,800. An additional $3,300 per month is incoming from payroll deductions authorized by the firemen. Also, additional money is to be derived from a share of the profits from dances and other forms of entertainment staged at the Firemen's Hall.

When the fund reaches $200,000, firemen who are eligible for retirement may start drawing the half pay benefits as provided in the legislative enabling act.

D. G. SPENCER.

## Treating Christmas Trees

(*Continued from page 795*)

treatment if the retention of the natural color of the foliage is unimportant.

### Recommended Treatment

The procedure recommended for the water treatment is as follows:

1. Obtain a tree that has been cut as recently as possible.
2. Cut off the end of the trunk diagonally at least 1 inch above the original cut end. Stand the tree at once in a container of water and keep the water level above the cut surface during the entire time that the tree is in the house. If the tree is not to be set up for several days, it should be kept standing in water meanwhile in a cool place.

If started in time, this treatment not only will prevent the needles from drying out and becoming flammable, but it will also keep them fresh and green. It will, in addition, retard the fall of needles of such species as spruce, which losses needles very easily, in contrast to balsam fir, which retains its needles even after the branches have become dry and the needles brittle. Freshly cut spruce or balsam fir trees standing in water cannot be set on fire by candle or match fires, but, of course, will not withstand a large source of heat.

### Decorative Coatings

Several types of fire-retardant coatings that either prevent or greatly retard flame spread when applied to wood will provide similar protection when applied to Christmas trees.

For those willing to undertake the extra trouble and expense in the use of decorative coatings, the following simple formulations are suggested:

**FORMULA I**

**(Produces a shiny transparent colorless coating)**

| Ingredient | Parts by Volume |
|---|---|
| Sodium silicate (water glass) | 9 |
| Water, containing a wetting agent, such as Dreft, Vel, or Breeze (about 1 teaspoon per quart) | 1 |

**FORMULA II**

**(Produces a cream-colored coating. May be tinted with suitable dyes)**

| Ingredient | Parts by Weight |
|---|---|
| Sodium silicate (water glass) | 31 |
| China clay | 41 |
| Water, containing wetting agent (about 1 teaspoon per quart) | 28 |

**FORMULA III**

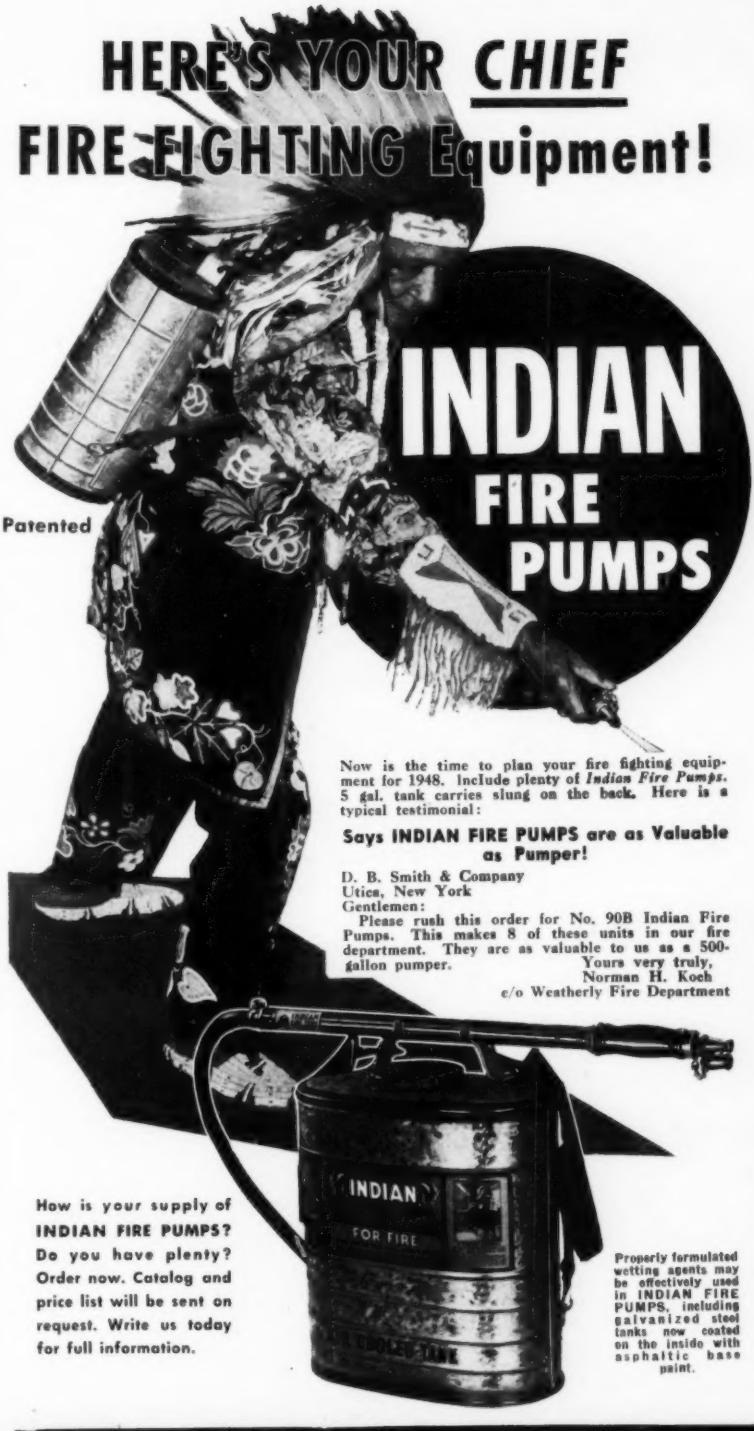
**(Produces a glossy white coating. May be tinted with suitable dyes)**

| Ingredient | Parts by Weight |
|---|---|
| White lead (basic carbonate) | 41.0 |
| Borax | 32.0 |
| Raw linseed oil | 22.8 |
| Turpentine | 3.6 |
| Japan drier | .6 |

This type of coating can be made at home by mixing equal parts of a commercial white lead paint and of a borax-linseed oil paste. The paste is prepared by stirring together one part by weight of boiled linseed oil and two parts of borax ground and sieved to remove coarse lumps.

In applying any of the foregoing coatings the fact must be kept in mind that a heavy coating is necessary to reduce the fire hazard. Two coats are recommended. The coatings may be applied either by dipping or by spraying.


HERE'S YOUR *CHIEF* FIRE FIGHTING Equipment!

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Gentlemen:

Please rush this order for No. 90B Indian Fire Pumps. This makes 8 of these units in our fire department. They are as valuable to us as a 500-gallon pumper.

Yours very truly,
Norman H. Koch
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**How is your supply of INDIAN FIRE PUMPS? Do you have plenty? Order now. Catalog and price list will be sent on request. Write us today for full information.**

Properly formulated wetting agents may be effectively used in INDIAN FIRE PUMPS, including galvanized steel tanks now coated on the inside with asphaltic base paint.

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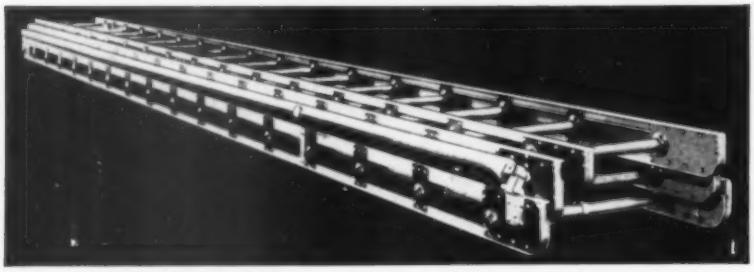
# FIREMEN PREFER... Aluminum FIRE LADDERS



**ALUMINUM IS LIGHT**

When time is precious and manpower is at a premium, light-weight Aluminum Ladders are your most efficient life-saving and fire-fighting tools for they require fewer firemen to raise and operate them successfully.

**ALUMINUM IS STRONG**

Available in 1, 2, 3 and 4-section models, every Aluminum Ladder is heavily riveted and constructed of high-tensile-strength Aluminum Alloy. The corrugated rungs are securely fastened with aluminum expansion bushings, with the result that the rungs never become loose or break off.

**ALUMINUM IS DURABLE**

Practically all of the ALUMINUM FIRE LADDERS purchased since 1936 are still in use today. Being fireproof and rust proof they last longer than other types. Write for Complete Information.

*"Original Manufacturers of Aluminum Ladders"*

**Aluminum Ladder Company**

200 Carbis Street
Worthington, Pa.


STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 OF FIRE ENGINEERING, published monthly at New York N. Y., for October 1, 1947.

State of New York } ss.:
County of New York }

Before me, a notary public in and for the State and county aforesaid, personally appeared I. H. Case, who, having been duly sworn according to law, deposes and says that he is the business manager of the FIRE ENGINEERING and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the act of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946 (section 537, Postal Laws and Regulations), printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Case-Shepperd-Mann Publishing Corp., 24 W. 40th St., New York 18, N. Y.; Editor, Fred Shepperd, 24 W. 40th St., New York 18, N. Y.; Managing Editor, Fred Shepperd, 24 W. 40th St., New York 18, N. Y.; Business Manager, I. H. Case, 24 W. 40th St., New York 18, N. Y.

2. That the owner is: Case-Shepperd-Mann Publishing Corp., 24 W. 40th St., New York 18, N. Y.; I. H. Case, 24 W. 40th St., New York 18, N. Y.; Fred Shepperd, 24 W. 40th St., New York 18, N. Y.; Karl M. Mann, 24 W. 40th St., New York 18, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

I. H. CASE,
Business Manager

Sworn to and subscribed before me this 11th day of September, 1947.
[Seal]

(My commission expires March 30, 1949.)

WILLIAM H. TOPHAM,
Notary Public.

It may be necessary to thin formula I for spray application in which event more applications are necessary.

Silver effects can be had by spraying an aluminum paint on trees coated with either formula II or III.

If a coating is applied, it is recommended that the water treatment also be used to insure the added protection against fire that the moisture in the tree provides. Furthermore, experiments have shown that the water treatment improves the adherence of brittle coatings, such as formulas I and II, because the moisture-filled needles do not shrink and thus allow brittle coatings to flake off.

### Fire-Retardant Chemical Solutions

Experiments at the Forest Products Laboratory have shown that the introduction of several fire-retarding chemicals into spruce resulted in one or more of the following: needle discoloration, needle fall, increased combustibility. The increase in flammability was due to the fact that chemical solutions were taken up by the tree neither so rapidly nor in such large amounts as water, and trees actually lost weight while being treated with chemical solutions. Thus, while the trees were taking up some fire-retardant chemical, they were losing another excellent fire retardant, water.

As a specific example, ammonium sulfate caused serious discoloration of both spruce and balsam fir needles. Spruce needles started to fall 2 days after treatment and by 5 days were falling freely. (Reports that have come to the Forest Products Laboratory from those who have used the ammonium sulfate treatment have revealed similar experiences). Both spruce and balsam fir treated with ammonium sulfate were more flammable than water-treated specimens. The spruce was more flammable than the balsam.

### Extra Fire Precautions

In addition to these treatments, all possible precautions against fire should be in effect around the Christmas tree, including the elimination of defective electrical connections, and avoidance of the accumulation of combustible decorations on or beneath the tree; the tree should be placed so that its accidental burning would not ignite curtains or other combustible furnishings nor trap the occupants of a room or building.

## Signal Men Elect Officers

Adin W. Chase, City Electrician, Niagara Falls, New York, was elected President of the International Municipal Signal Assn., Inc., at the 52nd Annual Meeting of this organization held at Grand Rapids, Mich., September 29-October 2, 1947. Other officers elected were: 1st Vice-Pres. Ray J. Myers, Supt., Signal Systems, Akron, Ohio; 2nd Vice-Pres., F. O. Goodwin, City Electrician, Newport News, Va.; 3rd Vice-Pres. Dan Wallace, Supt., Dept. of Electricity, Berkeley, Cal.; Treasurer, Charles S. Downs, City Electrician, Altoona, Pa.; Secretary, Irving Shulsinger, New York City.

Buffalo, N. Y., was selected as the place for the next Convention, to be held October 4-7, 1948. Headquarters will be at the Hotel Statler.

## Questions and Answers

### Atmospheric Pressure Below Sea Level

*To the Editor:*

Since atmospheric pressure is 14.7 pounds per square inch at sea level and is quoted as being highest at that point, decreasing as the elevation, how is atmospheric pressure measured or indicated below sea level?

R. E. H.

*Answer:* The pressure of the atmosphere in pounds per square inch at any altitude may be closely approximated for ordinary temperatures by multiplying the height of the mercury barometer, in inches, by .491. The pressure increases with the depth below below the earth's surface, and is equal to about 1 inch rise in the barometer for each 900 feet of depth. This is an approximate rule for ascertaining the depth of mine shafts, and is considered sufficiently accurate for all practical purposes.

### Ladder Pipe Stream

*To the Editor:*

Our aerial ladder trucks are provided with a ladder pipe mounted stationary on the bed ladder to provide a stream 40 feet above the ground. The ladder pipe is fitted with a standard 2½-inch coupling from which is hung a 40-foot, or shall we just say, a 50-foot section of 2½-inch hose. At the base of this hose is a 2½x2½x2½-inch siamese. We have three tips for the ladder pipe, a 1¼-inch, a 1½-inch and a 1¾-inch. There has been some question as to the efficiency of a 1¾-inch stream from two siamesed lines of 2½-inch hose after passing through the one section of 2½-inch hose up to the ladder pipe. Can a satisfactory stream be secured from two lines siamesed? What would be the effect of three lines siamesed? The stretch from pump to siamese is 500 feet; nozzle pressure is 70 pounds and a 1¾-inch tip is used. Assume a single pumper is to supply the layout.

J. H. W.

*Answer:* At 70 pounds nozzle pressure, discharge from a 1¾-inch tip is 761 gallons per minute.

The friction loss in 100 feet of 2½-inch hose carrying 761 gallons per minute is 123.4 pounds.

The friction loss in 50 feet of 2½-inch hose at the same flow is 61.7 pounds.

The pressure at the siamese will then be:

| | | | |
|---|---|---|---|
| Back pressure = 40 × .434 | = | 17.36 | pounds |
| Nozzle pressure | = | 70 | pounds |
| Friction loss | = | 61.7 | pounds |
| Pressure at siamese | = | 149.06 | pounds |

The stretch from the pumper to the siamese is 500 feet.

Assuming that we are using two lines,

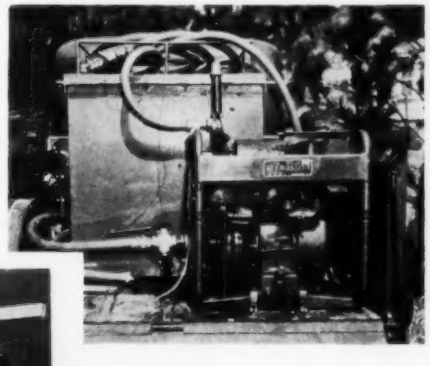

# HALE TYPE FZZ Portable Pumping Unit

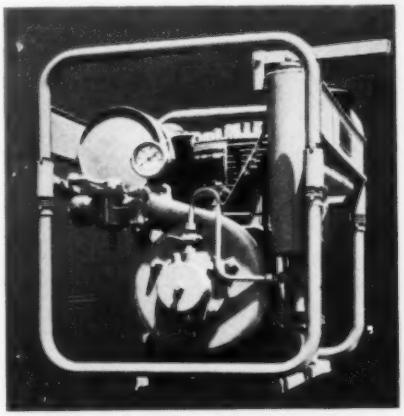
## *Fights Brush Fire From Moving Truck*

**Here is an on-the-spot picture showing a Hale Type FZZ Portable Pumping Unit fighting a brush fire from a moving truck. The unit can be mounted or carried on virtually any type of equipment, making it possible to fight fire while in motion, using a booster tank for source of water.**

**The Hale FZZ is a powerful, rugged, ready-to-use unit built specifically for fire fighting. Compact, dependable and efficient, it will stand long hours of continuous pumping. The unit will supply, from draft, 60 U. S. Gallons per minute with 90 lbs. pump pressure up to 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1½" lines with ½" tips.**

**Simplicity in design and reliability are exemplified in the Hale single stage centrifugal pump, bolted direct to a 7.7-H.P. Briggs and Stratton four-cycle, single-cylinder, air-cooled engine. The Hale Ejector Priming system eliminates priming pumps, clutches or gears. (Foam proportioner built in, if specified.)**





*Above*—Side view of FZZ shown at top fighting brush fire. If source of water cannot be reached by truck to refill booster tank, the Unit can be quickly removed and carried to source of water to "refill," or to fight fire direct.

*Left*—Close-up of FZZ in carrying frame, handles turned in. Easily carried by two men. NOTE: Unit also available mounted on iron straps or on two-wheel truck mounting for easy wheeling where needed.

***Write for FZZ folder. Let us know if your Company wants a demonstration and we will forward your request to nearest Hale Dealer.***

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**Conshohocken, Pa.**

***Fire Pumps in All Standard Capacities***

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An absolutely dependable, tried and proven siren for communities of all sizes. Loud, clear, simple to install and no maintenance to bother with. Embodying the "know how" of the oldest and largest makers of siren signals in the fire field. Write for descriptive literature and list of towns using the model "M." Also . . . Manufacturers of a Complete Line of Apparatus Sirens.

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DEPENDABLE - SIRENS

US UNITED STATES MOTORS CORP. 430 Nebraska St OSHKOSH, WIS.

each will carry 761 ÷ 2, or 355 gallons per minute, approximately.

The friction loss per 100 feet of 2½-inch hose carrying 355 gallons per minute is 29.3 pounds.

The friction loss in 500 feet will be five times as much, or 146.5 pounds.

The engine pressure will then be 146.5 + 149.06 (pressure at the siamese) = 295.56 pounds.

If three lines are used, each will carry 761 ÷ 3, or 253.67, or 254 gallons approximately.

Friction loss in 100 feet of 2½-inch hose carrying 254 gallons per minute is 16 pounds approximately.

Friction loss in 500 feet will be 5 times as much, or 80 pounds.

The engine pressure will then be 80 + 149.06, or 229 pounds approximately.

No 750 g.p.m. pumper could deliver 761 gallons per minute at 295 pounds pressure. Only the very largest pumper could deliver 761 gallons at 229 pounds engine pressure.

## Effect of Lift on Discharge Pressure

*To the Editor*:

When drafting water from a cistern 20 feet deep, would the discharge pressure change as the water lowers from one foot from the top to one foot from the bottom.

H. S. E.

*Answer:* An engine, to raise water by suction, requires just as much work as to force the water up by pressure to the same height. In other words, it requires just as much power on the part of an engine to raise 500 gallons per minute 20 feet by suction as it would require to force 500 gallons per minute to a height of 20 feet by pressure.

An engine which is raising water 20 feet by suction and then forcing it up 80 feet by pressure is doing approximately the same work as an engine which is having water fed to it (at no appreciable pressure) and which is forcing the water up to 100 feet elevation.

Thus if a pumper were operating at its full power, and the suction head were increased, the discharge pressure would be decreased.

## Effect of Hydrant Pressure on Pump Performance

*To the Editor*:

A problem in hydraulics has created much discussion among several local firemen, regarding to what extent a fire pump will be aided by hydrant pressure.

It is understood that a 1000-gallon pump will deliver its rated capacity at 120 pounds through three 2½-inch lines into a 2-inch tip when drafting.

Now suppose we use the same setup but instead of drafting, we pump from a hydrant which has a normal pressure of 50 pounds.

Will this hydrant pressure permit the pump to deliver more than its rated capacity and at a higher pressure?

It is one belief that since 50 pounds

is already being supplied by the hydrant, the motor will have less load imposed, and can thus pump over its rated capacity under these conditions.

We would be very pleased if you would supply us with a theory regarding this particular phase of pumping, and some figures, to clarify your explanation.

F. C. F.

*Answer:* The pressure provided by the hydrant, when water is flowing, is a material help in improving the performance of the pumper. What it is similar to is the placing of pumpers in relay, the first pump supplying water and pressure to the second. In this particular problem, the pressure in the hydrant will be transmitted to the pump and will aid the pump. The discharge pressure will be almost equal to the pressure created by the pump plus the pressure provided to the pump by the hydrant, where centrifugal pump is employed.

This increased pressure aids the hydrant not only in delivering a higher pressure, but also an increased discharge.

Pumpers are usually tested from suction because this is the most difficult condition under which they'll operate. If they were tested from hydrant, correction would have to be made for hydrant pressure; otherwise the engine would be given credit for doing more than it would normally do without the aid of the hydrant.

## Factors for Four-Way Deluge Guns

*To the Editor:*

In the September issue of FIRE ENGINEERING the "Questions and Answers" column has a question on solving a problem of discharge from a four-way deluge gun.

In your answer to this question you state that there have been no K factors developed for solving a four-line parallel stretch.

Listed below you will find factors that I worked out some years ago for this type of problem.

K for four lines of 2½-inch hose on the following nozzles: 1⅜-inch, .026; 1½-inch, .037; 1⅝-inch, .051; 1¾-inch, .067; 2-inch, .116.

HENRY T. HANSON
Maynard, Mass.

## World Wide Fire News

By Roi B. Woolley

### Mystery in Mexico

An unidentified flaming abject soared over the Mexican border in October, striking among the Zamalayuca Mountains in Mexico with a loud explosion and clouds of smoke. This was in an area estimated at less than ten miles from the point where a V-2 rocket, off its track, crashed south of Juarezon, May 29.

Public relations officers of the Army's White Sands Proving Grounds, (N.M.), and officials at Fort Bliss, El Paso, Tex., are mum about the cause for this latest "fiery object" which was seen, by at least four persons, tearing through the skies "with the speed of a falling star."

What caused that fire?
find out with MINERALIGHT
Firemen, investigators and insurance men have found MINERALIGHT, the portable Ultra-Violet lamp, invaluable in tracing fire origins. MINERALIGHT readily detects fluorescent clues. Completely portable, this Ultra-Violet unit is ideal for on-the-scene investigation. Laboratory units are also available in 110 volt A.C.
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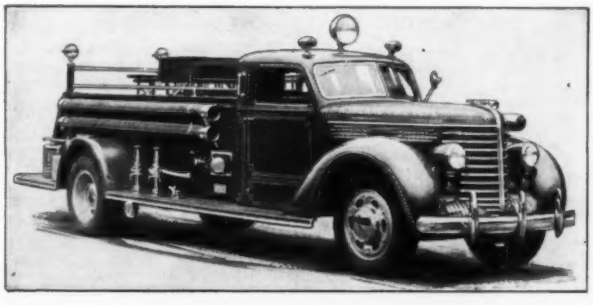

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575 East Milwaukee St.

DETROIT 2 MICHIGAN


Coupled with the many and widespread reports of "flying saucers," this latest "phenomenon" leads to the belief that there are things going on "of which we wot not."

* * *

### Tel-Aviv Gets N. Y. "Fire Engine"

As an episode of Fire Prevention Week, New York City handed over a "fire engine" to the city of Tel-Aviv, Palestine.

Formal presentation of the "engine" (type, age and other historical specifications unknown) was scheduled at the City Hall with Mayor O'Dwyer giving the apparatus on behalf of the New York Fire Department to Edward A. Norman, president of the American Fund for Palestinian Institutions.

Representatives of four faiths—Catholic, Protestant, Jewish and Mohammedan—blessed the "engine" as part of the ceremony.

* * *

### Living on Borrowed Time!

Air Force Sergeant Gaither B. Sasser, of Tallahassee, is a very lucky man; also he is by way of being a hero, aside from the fact that he has no right being alive.

Sergeant Sasser was driving a truckload of 500-pound demolition bombs near MacDill Field, Florida, when, in some unaccountable way, one of the bombs took off.

The blast of this bomb, and a second explosion as another let go, shook houses for miles around the Field.

Stumbling from the area after the initial explosion—he doesn't remember how he did it—Sergeant Sasser warned approaching firemen who saw the blast and rushed to the scene. Even as he warned the fire fighters the second bomb went off.

Nothing but a blackened patch of dirt marked the spot where the truck had been. Live bombs tossed over a wide area did not detonate. Bits of the truck were found several hundred yards from the explosion, which was in a remote section of the air base where 7000 troops are stationed.

The Sergeant is living on borrowed time!

* * *

### How Will You Have Your Beef?

Just to point up our national fire waste, in the vital food classification, fire aboard the 3-year old Cunard White Star Line Vasconia, recently broiled and otherwise ruined about 600 tons of frozen beef bound for Britain.

According to the New York Fire Department, which fought the blaze, with a full complement of land companies and two fireboats, the fire originated in insulation in the hold and spread to meat wrappings. Six pieces of apparatus were run onto the pier (which is located just south of Pier 57, destroyed shortly after) and their lines, combined with those of the fireboats, controlled the blaze before any extensive damage was done to the ship.

* * *

### Hot Off the World Wide News Ticker

With fires still burning in a coal cargo in her holds, the 7,000-ton Liberty Ship Henry M. Rice hustled for Hull, Eng., where her cargo was unloaded so that firemen could get at the stubborn fire. . . . Twelve Japanese were killed or injured October 17, last, in a $4,000,000 fire which destroyed nearly two-thirds of Shimonoseki, on Honshu Island. It is reported 4,000 were made homeless as flames destroyed 700 homes and an occupation force barracks. Occupation personnel, hampered by shortage of water, fought the flames with bulldozers and dynamited buildings to localize the fire. . . . Working on an experi-


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ANNISTON, ALABAMA

ment, the nature of which is undisclosed, at Picatinny Arsenal, Dover, N. J., Dr. Paul F. Macy, research chemist and head of the Army's laboratory, was killed, when a glass retort exploded and a splinter caused a fatal hemmorhage. . . . Total deaths in the movie fire that ushered in October, in Managua, Nicaragua, are reported at sixteen. Only 100 persons were in the little theatre when the fire started. . . . One boy was killed, six others injured, three seriously, when what is believed to have been a fireworks bomb or can of gunpowder with which they were tampering exploded in Westbury, L. I. . . . According to press reports, a heavy explosion occurred October 13 in a British ammunition dump near Ismailia in the Suez Canal zone and fires were started which burned for several days. . . . An explosion of unexplained origin on October 14 partially destroyed the foundry of the United Steel Co., a Czechoslovak nationalized industry at Rychnov (formerly Reichenau) near the German border in Czechoslovakia. The arrest of all Germans in the town over the age of eighteen was ordered. . . . The reported "flying saucers" seen in the New York area in September were later discovered to be "cosmic test balloons" which came from Lehigh University, Bethlehem, Pa., used in the measurement of cosmic rays, for the Army. . . . One man was killed and two burned, following a boiler explosion aboard the tanker Esso Saranac, about 230 miles east of the Chesapeake Lightship. Fortunately fire did not ensue. . . . Aeronautical experts have disclosed that American pilotless aircraft recently reached speeds of more than 1,500 miles an hour, twice the speed of sound and far exceeding the British claim that one of their rocket-powered robot planes attained 1,000 M. P. H. . . . Lieut. Gen Hugh A. Drum, commanding the New York State National Guard, says the state is "faced with a dilemma because of the failure of the Federal government to act on proposed plans for the defense of New York City in case of atomic bomb attack. . . . Those who see hazards in the increasing air transportation may be interested in the specifications of the new Consolidated-Vultee B-36. It measures 163-ft. in length; 47-ft. height; has a wing-span of 230-ft., gross weight of 278,000 lbs. It has six pusher-tvpe engines and its gasoline fuel capacity is over 21,000 gals. It can carry 1,200 gals of oil. . . . Three seamen convicted of murder for complicity in the fire bombing of a rooming house in Baltimore, Md., where six Spanish-American seafarers were burned to death during a maritime strike, were sentenced to life imprisonment in October. . . . The Army is conducting a series of high-explosive experiments to determine the ability of underground structures to withstand blasts including simulated atomic explosion.

* * *

**Fatal Collision and Fire**

The second mate, and a crewman of the Canadian collier Milverton died and ten others were injured while ten were unaccounted for as a result of a collision in the St. Lawrence River that set off a terrific explosion and fire on the 2,600-ton coal ship when a flaming oil cargo spilled over its bows.

The collier collided with the oil tanker Translake off Iroquois, Ontario, about twenty-three miles West of Massena, N. Y. Residents of the farming and tourist area were startled from their beds by the blast which shook houses over a wide area.


New HEAVY-DUTY ELECTRIC PLANT

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● Floodlight danger spots, operate tools, pumps and blowers with this new, large capacity, portable Onan Electric Plant. Mounted in a tubular-steel guard frame, this unit of lightweight, aluminum construction is easily carried by two men. Ruggedly built, powered by 10 H.P., horizontally opposed, two-cylinder, 4-cycle, air-cooled Onan engine. Equipped with four or six-receptacle outlet box.

NEW ONAN CK ELECTRIC PLANTS are available in 5,000 Watts D.C., 115 and 230 volts; 2000 and 3000 Watts A.C. in all standard voltages.

ONAN ELECTRIC PLANTS—A.C.: 350 to 35,000 Watts in all standard voltages and frequencies. D.C.: 600 to 15,000 Watts, 115 and 230 Volts. Battery Chargers: 500 to 6,000 Watts, 6, 12, 32 and 115 Volts.

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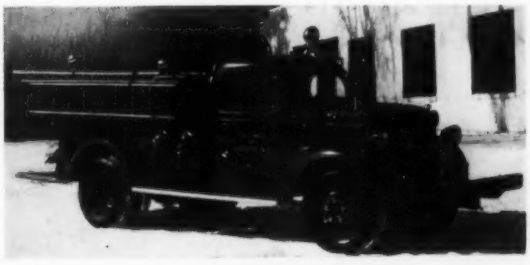
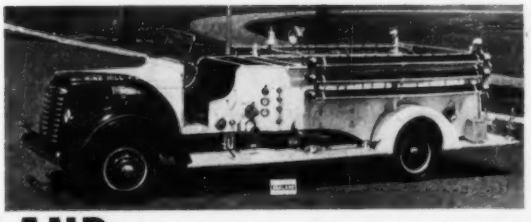


Quogue, N. Y.
Recently delivered, standard 500 gal. triple combination, special front end pumper. Built on standard commercial chassis.



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NOW AVAILABLE

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CARPENTER LIGHTS
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The Translake, carrying crude oil met the Milverton, bound downstream, when the tanker's steering gear is said to have jammed. The latter vessel struck the tanker amidships cutting deeply into her side. Part of the oil cargo spouted over the tanker's bows and almost at once it caught fire, in turn igniting the collier's spare fuel tanks and showering the ship with blazing oil. Several of the crew leaped into the river. Under her own power she was headed for shore, and beached on the American side of the river to burn herself out.

The great heat made it impossible for rescuers to approach nearer than 150 feet of the flaming craft. The collier was reported a total loss.

## Persons in the News

### Chief O'Leary Retires

Deputy Chief William E. J. O'Leary, known as the "scholar" of the Fire Bureau, retired in September from the Rochester, N. Y., Fire Department, after forty-four years in the service. He was injured in an automobile accident soon after the I. A. F. C. convention in New York, and never resumed active duty.

Chief O'Leary has twenty-three rescues to his credit since joining the department in 1903, and it is said during his tenure he topped all civil service examinations he took. He is widely known and popular among brother firemen, although a strict disciplinarian. He was promoted to lieutenant in 1909; to captain 1911; battalion chief, 1922 and deputy chief in 1937.

He is a member of the International Association of Fire Chiefs.

### Chief Louis Travis Dies

Fire Chief Louis A. Travis, a veteran of forty-six years with the Lexington, Ky., Fire Department died unexpectedly on October 18 at Central Fire Station. His death was attributed to acute indigestion. Chief Travis collapsed when preparing to go to City Hall for a conference with the City Manager.

The Chief, who was seventy years of age joined the department in 1901. He became First Assistant Chief in 1930 and was promoted to Chief in 1944.

### Ex-Chief T. D. Blake Dead

Former Fire Chief Thomas D. Blake, 65, at Rockford, Ill., a fireman for 44 years, died in his sleep Sunday morning, Oct. 19, in a room in a Mount Vernon, Ill., hotel where he was attending the state convention of the Illinois Firemen's association.

Active in national, regional and state fire-fighting organizations, Chief Blake had been fire chief for 24 years before his retirement in November, 1946, because of a heart ailment. Death was attributed to the same cause.

A lifelong resident of Rockford, Blake became a firemen at 20, a captain at 23, and chief at 40.

Flags on municipal buildings flew at half-mast and fire headquarters was draped in black crepe in tribute to the chief. Funeral services were held Oct. 21, with Assistant Chief Ralph Lund, Capts. Walter Welch, Charles Wright,

Ralph Thorne and Ben Goggiel and Fireman Robert Loomer as pallbearers.

Surviving, in addition to his widow, are a son, Capt. Thomas R. Blake, Jr.; a daughter, Mrs. Paul West, Galena, Ill.; four grandchildren, Thomas, Michael and Jean Marie Blake, all of Rockford, and Dennis West, Galena; a sister, Mrs. John L. Sweeney, and a brother, Tracy Blake, both of Rockford.

B. J. GARSON

## Peter Steinkellner Dead

Former Chief Peter Steinkellner, of the Milwaukee, Wis., Fire Department, died at his home at Fox Lake, Wis., on November 9 from a cerebral hemorrhage.

Chief Steinkellner joined the Milwaukee Fire Department on October 1, 1912; was made Lieutenant April 1, 1920; advanced to Captain on November 1, 1925 and shortly thereafter passed the examination for Assistant Chief, placing tenth in the eligible list. He was appointed by the Fire and Police Commission as Chief from the list on January 9, 1925. He retired in 1945.

Peter Steinkellner

Chief Steinkellner was an outstanding leader in the fire service. He was President of the Wisconsin State Association of Fire Chiefs and President of the Great Lakes Association of Fire Chiefs for many years; he also served as Director for the I.A.F.C. for over a decade.

He was selected by that body to serve as its representative on the fire defense committee of the Office of Civilian Defense in Washington during World War II, and his counsel and advice in that connection was of great benefit to the nation's fire service and its wartime defense plans.

He is survived by his wife, two sons and two daughters.

### Appointments and Promotions

CARTARET, N. J.—Ellsworth O'Donnell, chief.

FAIRMONT, IND.—John A. Siegel, chief.

TAHLEQUAH, OKLA.—Lewis Tarkington, chief.

ROSEVILLE CITY, CALIF.—Pete Badovinac, chief and city building inspector.

MELLENVILLE, N. Y.—Garner Shutts, chief.

BOWLING GREEN, MD.—Garland Phillips, chief.

WOODLAWN, VA. — Hugh N. Warren, Sr., chief.

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MECHANICAL FOAM PRODUCING LIQUID

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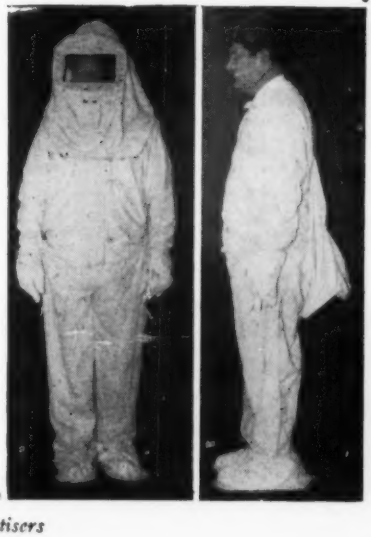

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The "DAVY" is an absolute necessity in every fire department! It saves firemen — saves time — saves lives! Just hook it to a ladder rung — put strap around the victim — that's all there is to it. It lowers the person at about two feet per second — safely — while another strap is waiting for the next person to be lowered. It will lower five persons in less time than it takes one fireman to climb a ladder and bring back one victim.

The "DAVY" is 100% automatic — requires no manual manipulation. There is no upkeep—it will not deteriorate — needs no mechanical adjustments — will not get out of order. The brake mechanism is sealed in a round container about 6" by 2", with steel-cored cord neatly coiled below the container. *Davy's have been in service for over 40 years.*

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**RUSSELL UNIFORM CO.**

1600 Broadway, New York 19, N. Y.

*Write for Fire Dept. catalog No. 55*


ASHEVILLE, N. C.—Harold W. Hicks of Charleston, S. C., formerly with the U. S. Forest Service, was elected education director of the Southern States Forest Fire Commission.

### Obituaries

SACRAMENTO, CALIF. — Charles W. Anderson, 80, former chief of the Sacramento Fire Department and city councilman died after a lengthy illness. He was chief from 1910 until 1920 when he retired as a result of an accident to his automobile while responding to an alarm.

UNIOPOLIS, OHIO—Alva Lee Naus, Sr., 50, chief of the volunteer fire department, died following a heart attack suffered during operations at a fire. He was also a member of the village council of Uniopolis.

### Resignations and Retirements

PATERSON TWP., N. J.—Harold W. Griffin, former Fire Chief, has resigned from the Township Fire Department after twenty-five years of service. His successor is Bert De Leeuw a member of the Lodi Fire Department.

LYDONVILLE, N. Y.—George Hungerford has resigned as Chief of the Lydonville Fire Department after seventeen years in that post. Robert Peters was elected to succeed him.

DETROIT, MICH.—Harold A. Fuller, since 1944 Superintendent of the Fire Department Signal system and Chief of the Telegraph Bureau, has retired. He is very well known among the nation's signal engineers.

LUDLOW, MASS.—Edward V. Stone, Fire Chief for the past forty years of the Ludlow Fire Department retired in July.

FAIRMOUNT, IND.—Ralph E. Parker has resigned as Chief of the local Fire Department after twenty-nine years of service.

## What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of October, 1947.

### Month Ending October 31, 1947

**Red Deer, Alta.**—Crescent Theatre bldg., Charles Anderson barber shop and Grasby jewelry store, damaged.

**Baseline, Ariz.**—Bldg. owned by Raymond and Charles Loetscher, destroyed. Lightning.

**Sacramento, Cal.**—Box reconditioning plt. and storage whse. of California Packing Corp. destroyed.

**East St. Louis, Ill.**—St. Clair Theatre destroyed.

**Astoria, Ore.**—Richmond Hotel destroyed.

**Martin, Tenn.**—Winstead-Murphy Furniture Co. damaged.

**Houston, Tex.**—Border States Distributing Co., paint and chemical mfrs., damaged.

**Pecos, Tex.**—Kimball Pecos Wholesale Grocery Co. damaged.

**Vancouver, Wash.**—Vancouver Plywood Co. damaged.

**Minneapolis, Minn.**—Schaefer, Inc., refrigerator mfg., plt. damaged.

**Ottumwa, Ia.**—Anderson Bldg., occupied by Radio Station KBIZ and Hub clothing store and offices damaged. Adj. Sears Roebuck and Reynolds women's apparel shop, damaged. Cigarette.

**Crestline, Ohio.**—Two pump cars and one tank car, Pennsylvania Railroad, destroyed. Sparks from welding torch.

**Nerlin, Wis.**—Several business-apt. bldgs., including Koslowski Appliance Store, Dopke Tavern, Broadway Dry Goods Store, Ikeman Hardware Store, Krause Garage, Booth Dairy Co.

**Taylorville, Ill.**—Sunshine Feed Store and grain elevator destroyed.

**Prince Rupert, B. C.**—Central Hotel destroyed.

**South Slocan, B. C.**—Taghum Lumber Co.'s planing mill destroyed. Believed incendiary.

**Redwood City, Cal.**—Red Feather Mfg. Co. plt. damaged; incendiary. Second fire in week.


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**RAYBESTOS-MANHATTAN, Inc.**

*"Keep Ahead with Manhattan"*

MANHATTAN RUBBER DIVISION, PASSAIC, N.J.



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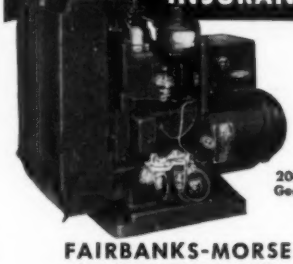

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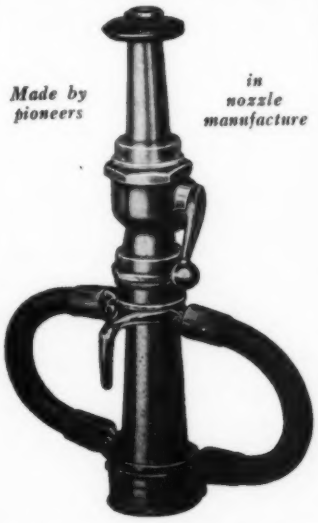
City..... State.....

"All American Choice"



Made by pioneers in nozzle manufacture

INVINCIBLE
NOZZLES
F. N. McINTIRE BRASS WORKS
Successors to A. J. Morse & Son, Inc.
Boston, Mass.
1837 — 1947

PLACE YOUR ORDER NOW, FOR
CAIRNS
WINTER EQUIPMENT

All your cold-weather needs can be supplied by CAIRNS, America's Firemen's Headquarters since 1836. Order now, for delivery in time:—warm Turnout Coats and Trousers—fleece-lined Rubber Coats—felt-lined Boots—woolen Mittens—Face Shields—and

CAIRNS HELMETS

in leather, aluminum or Flint-Flex, with ear laps and neck protectors and the famous Cairns Cushion Lining. Early orders will assure better delivery. Write for Catalog 310.

CAIRNS & BROTHER
(ALLWOOD) CLIFTON, N. J.

**Portland, Ore.**—Portland Gas & Coke Co's plt. damaged. Spark gas retort.
**Washington, D. C.**—Whse. of S. Kann Sons Co. dept. store destroyed.
**Las Vegas, Nev.**—Whse. of Las Vegas Wholesale Liquors Co. and Utah Wholesale Grocers, destroyed.
**Los Angeles, Cal.**—See-Mar Furniture Co. plt. and Carving Studio, destroyed.
**Ruston, La.**—Ruston Hardware store damaged.
**Nashville, Tenn.**—Grandview Presbyterian Church destroyed.
**Detroit, Mich.**—Atlas Hat & Cap Mfg. Co.; National News Co. and Ralph C. Paul Co. damaged. Sparks from burning rubbish.
**Rockaway, N. J.**—Sirocco tavern and restaurant, Route 6, destroyed
**Lake View, N. Y.**—Lake View Hotel destroyed; Barn at rear of hotel used to store highway bldg. equipment destroyed.
**Plains, Mont.**—Ed Deihl & Sons sawmill destroyed.
**Greenville, N. C.**—Pactolus high school bldg. damaged.
**Utica, N. Y.**—Utica Casket Co. damaged.
**South Providence, R. I.**—American Waste Paper Co. damaged; National Tire & Patch Co. damaged; Louis Bedrick junk shop damaged; bldg. owned by Mrs. Mary Jacobs destroyed; Lovett Tire & Rubber Co. damaged.
**Winchester, Va.**—Bldg. occupied by Marcus Bros. and Virginia Fruit Co., apple packing concerns, damaged.
**Madras, Ore.**—Pacific Supply Cooperative grain whse. destroyed.
**Montreal, Que.**—160,000 feet hardwood, in dry kiln of Canadian Flooring Co., Town of Mount Royal, destroyed.
**Goshen, Ind.**—Saw mill of Griffith Lumber Co. destroyed.
**Poplar Bluff, Mo.**—Mill supply store, used furniture store, restaurant and jute box sales agency, destroyed.
**Coatesville, Pa.**—Airplane machine and repair shop, Lincoln Highway, two miles west, destroyed.
**Mabton, Wash.**—Mosebar Machinery Whse. destroyed.
**Detroit, Mich.**—Belle Isle Laundry Co. destroyed.
**Gary, Ind.**—First Presbyterian Church damaged.
**Bowling Green, Ky.**—Bldg. occupied by J. F. Callis Drug Co. damaged; another business bldg. also damaged.
**Memphis, Tenn.**—Dwelling of Ada Norfleet Fuller damaged.
**Atwater, Calif.**—Whse. and packing shed of Atwater Fruit Exchange destroyed.
**Springfield, Mass.**—Eddie's Cafe damaged. Hot water tank exploded.
**Pampa, Tex.**—Standish Oil Co. destroyed. Barrel tank destroyed. Lightning.
**Peterborough, N. H.**—Apple packing and storage barn on farm of George A. Morison, Upland, destroyed.
**Long Island City, N. Y.**—Furniture whse. of Van Leigh Furniture Co. damaged.
**Medford, Ore.**—Porter Lumber Co. destroyed.
**Pendleton, Ore.**—Pine Grove Saw Mill destroyed.
**Wilkes-Barre, Pa.**—L. J. Davison Furniture Co. destroyed.
**Brookneal, Va.**—Band Mill branch plt. of Burruss Land and Lumber Co. destroyed.
**Vancouver, B. C.**—Terminal avenue whse. of Canadian Industries, Ltd., destroyed.
**Chicago, Ill.**—Bishop Lumber Co. damaged.
**Fort Dodge, Ia.**—Elgin Paper & Supply Co. destroyed. Garage of Fort Dodge Nash Co. damaged.
**Strong, Me.**—Strong Woodturning Corp.'s turning mill destroyed.
**Delaware, Ohio.**—Plt. of Clad-Rite Cleaners destroyed.
**St. Basil, N. B.**—Sixteen bldgs., including eleven dwellings, destroyed.
**Los Angeles, Cal.**—Back drop and other studio facilities at 20th Century-Fox Studio destroyed. Sparks from switch.
**Santa Ana, Cal.**—Wing No. 2 of bachelor officers' quarters at Santa Ana Lighter Than Air Station destroyed.
**Decatur, Ill.**—Showroom and whse. of Crum Distributing Co., electrical appliance wholesaler damaged.
**Burlington, Ia.**—Burlington Fruit Co. destroyed.
**De Ridder, La.**—Bldg. occupied by Martin Jewelry, Woodey's Cafe, photography shop, damaged.
**New Bern, N. C.**—Grain bldg. at New Bern Oil and Fertilizer Co. plt. destroyed.
**Minot, N. D.**—Colcord block, occupied by grocery, bakery, appliance company and physician's office.
**Tulsa, Okla.**—Commander Mills, Inc., damaged. Short in electric wiring of a hoist.
**Galt, Ont.**—Valleyview Dairy destroyed.
**Kennebunkport, Me.**—Nearly 200 cottages and other structures destroyed. Forest fire.
**Portland, Me.**—Thousand foot Maine State Pier of Portland Port Authority destroyed.
**Worcester, Mass.**—Stone and Berg lumber yard destroyed.
**Foley, Minn.**—Hall Brothers Mercantile Co. destroyed.
**Great Falls, Mont.**—Stanley Block occupied by

THE NEW DELUXE
WHEAT
Rechargeable Spotlight
NOW AVAILABLE FROM STOCK

MODEL 253

ALL PARTS HIGH LUSTRE, CHROME FINISH—EQUIPPED WITH PROTECTIVE LENS GUARD AND ALL-LEATHER CARRYING STRAP

FEATURES

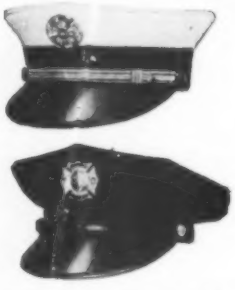
- Less expensive operation than dry cells.
- Free use of hands. Light carries conveniently on shoulder strap.
- Positive "Non-spill" construction.
- Light can be focused and directed as desired.
- Weighs only 95 ozs. complete.
- Simple to charge and water. No need to take lamp apart.
- Price and operating cost make Wheat adaptable to any budget.

2,500 FOOT BEAM
25,000 CANDLE POWER
1,000 HOURS OPERATION

KOEHLER MFG. CO.
MARLBORO, MASSACHUSETTS

WENTWORTH
HEAD-MASTER
REG. U.S. PAT. OFF.
FIREMAN UNIFORM CAPS

Union Made Prompt Delivery



Wentworth Fireman Caps are made of the Highest Quality Standard Materials available. They are made in all the New and Standard styles by the Best Skilled Union Craftsmen. Over 50 years of experience and skilled workmanship guarantees you AMERICA'S GREATEST CAP VALUE in all WENTWORTH FIREMAN CAPS.

Write direct for latest circular and prices or see your local dealer.

AMERICA'S UNIFORM CAP HEADQUARTERS

WENTWORTH-FORMAN CO. INC.
MANUFACTURERS
21-23 EDINBORO ST. BOSTON MASS.
EST. 1895

BAR-WAY
HOSE COUPLINGS
U. S. PATENT 2387447
for
HIGH PRESSURE
FOG lines
Approved By
UNDERWRITERS LABORATORIES

Streamlined
Full Flow
High Pressure
Accurately Machined
Internal Expansion
Remountable

"ON THE ENDS—IN THE END"
IT'S BAR-WAYS

BAR-WAY MFG. CO.
STAMFORD • CONNECTICUT

Brown Furniture Store, Thermal Co., Inc. and Thompson Hotel.

**Oklahoma City, Okla.**—National Rug Co. and adj. Circle Grocery Store damaged.

**Williamson, W. Va.**—Planing mill and woodworking shop of Mingo Lime and Lumber Co. damaged.

**Broad Brook, Conn.** Tobacco shed and whse. destroyed.

**Chicago, Ill.**—Advance Storage Co. damaged.

**Bar Harbor, Me.**—Summer estates of Potter Palmer; W. S. Moore; Lady Eunice Oakes, late Henry Morgenthau, Sr.; Walter Damrosch; William P. Hamilton; Amory Thorndike; Mary Roberts Rinehart; William Procter; George Munson; Edward May; Morris Hawkes; Charles B. Pike; Richard Hale; A. M. Cloudman; and the Jackson Memorial Laboratory and bldgs. of Arcadia National Park, destroyed. Estates of Arthur Train, Herbert Satterlie and Leo Luquer, damaged. Forest fire.

**Bloomingdale, N. J.**—One hundred and forty million-pound scrap rubber pile of Pequanoc Soft Rubber Co. destroyed.

**Passaic, N. J.**—Dairy Maid Food Market, heart of business district, destroyed. Short circuit.

**Cleveland, Ohio.**—The Perma Products Co. destroyed.

**Eugene, Ore.**—Eugene mill and elevator destroyed.

**Brenham, Tex.**—Seidel Bros. Gin Co. cotton whse. destroyed.

**San Antonio, Tex.**—Electrical Distributing Co. damaged. Defective wiring.

**Paincourt, Ont.**—Grain elevator destroyed.

**Fort Fairfield, Me.**—Hacker Bldg. occupied by super-market, hardware store and grist mill, carpenter shop; Odd Fellows Block occupied by lodge rooms, shoe repair shop, cleaning shop; and Fullerton Bldg. occupied by tailor shop and apt. of owner, destroyed.

**Wilder, N. H.**—Bldg. occupied by Wilder Grill and Wilder Fruit Store, damaged. Short circuit.

**Cleveland, Ohio.**—Mid-West Chemical Co. destroyed.

**Woodward, Okla.**—Newcomb-Frost Dept. Store, Oliver Store, Trego's Men's Wear, Brown's Drug Store, J. C. Penny Co. store and Boyle Hardware Store, destroyed. Second floors of bldgs. occupied by Elks Club, Masonic Lodge Hdqts. and several dentists and doctors offices. Gas furnace blast.

**Ottawa, Ont.**—Business block, Bank and Somerset Streets, destroyed.

**Los Angeles, Cal.**—Two storage sheds and lumber yard of Weber Showcase Co., damaged.

**Jacksonville, Fla.** — General Mills Co. whse. destroyed.

**Atlanta, Ga.**—Custom Mfg. Co., bldg., radio and phonograph cabinet mfrs., damaged.

**Charlestown, Mass.**—Three factories occupied by Paul Chemical Co., Globe Nickel Co. and M. H. Perry box factory, destroyed.

**Franklinville, N. Y.**—James H. Gray Milling Co. damaged. Adj. Electric Reactive Corp., slightly damaged.

**Cleveland, Ohio**—Tropical Paint & Oil Co. and several adj. bldgs., damaged.

**Cleveland, Ohio**—Bldgs. and yard of Zill Sash Door & Lumber Co. destroyed; also garage of Henry Novak, garage of Elmer Hartwig and dwellings of Fred Geldmacher, Anthony Stepec and Florence Kessler, damaged.

**Eberly's Mills, Pa.**—Garage of Hempt Bros., contractors, destroyed.

**Natrona, Pa.**—Hayer Bldg. occupied by storerooms and apts., destroyed.

**St. Stephens, N. B.**—Plt. of Summers Fertilizer Co. destroyed.

**Saskatoon, Sask.**—Administration bldg. at University of Saskatchewan damaged.

**Birmingham, Ala.**—Carpenter Oak Flooring Co. destroyed.

**North Anson, Me.**—Woodworking plt. of Berst-Forster Mfg. Co. destroyed.

**Pennington, N. J.**—Feed mill of Theodore P. Reed & Son damaged.

**Millwood, Va.**—Christ Episcopal Church destroyed.

## Fire Goes to Church

Canal Fulton, Ohio, had a pretty Catholic Church. Its 150-foot spire was a local landmark for 79 years identifying it to everyone approaching the little community from miles away.

During a terrific thunder storm recently lightning struck the church, blowing out some fuses. The priest investigated immediately and finding nothing amiss but the blown fuses, left the edifice, at about midnight.

Early next morning a neighbor discovered the entire rear of the structure afire and immediately summoned the

REVOLUTIONARY *Instant*
"LOADED STREAM" EXTINGUISHER
OFFERS *6 Big Advantages*

When 2½ gal. types are needed, specify the Fyr-Fyter *INSTANT*. Exclusive "loaded stream" charge 1) puts out fire faster with ⅓ the fluid, 2) quenches and fireproofs, 3) kills class A and B fires. The *INSTANT* is 4) anti-freeze, 5) needs no recharge except after use, 6) throws a strong stream.

*Underwriters' Approved! Write for literature and details of Underwriters' amazing 11 second test. 1¾, 2½, 20, and 40 gals. Also special fire department models.*

THE FYR-FYTER CO.
Dept. 101-35, Dayton 1, Ohio

Fyr-Fyter Extinguishers

TRUMPET
HYDRANT PUMP

A dependable, inexpensive oscilleting force pump. Hand operated. Fastens securely to any pentagon or square hydrant nut. Stainless steel shaft—brass wings and valves. Convenient to use, efficient action. Write for complete information.

THE WOOSTER BRASS COMPANY
WOOSTER OHIO

Canal Fulton Fire Department, reputed to be one of the best equipped and efficient small departments in Ohio. But by the time the firefighters were in operation, the fire blazed hopelessly beyond control.

Firemen, manning three pumpers, operated as many large streams on the hot fire and, although unable to prevent

Fire Consuming Steeple of Canal Fulton Church

the almost total destruction of the church, they stopped it from spreading to dwellings within 100 feet. They had the fire out in four hours.

Investigating after the fire, it was found that the altar and sacristy were untouched, although the roof had fallen in. In falling, all the large roof timbers formed a protective 'leanto' over these sections of the church and they were untouched. (Thanks Chief Ray Earle, Massillon, Ohio).

## Arlington Has Dwelling Inspection

Arlington, Mass., claims the distinction of being the first American community to institute dwelling inspections in connection with its fire prevention program. This innovation was inaugurated in 1924 without annoyance to the householders or fire department, by Chief Daniel B. Tierney, and it has become an annual feature of Arlington's outstanding fire prevention program.

## Maine State Chiefs Meet

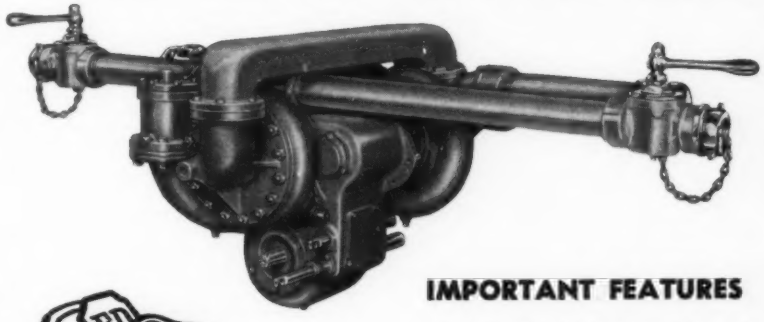
The annual meeting of the State Association of Fire Chiefs of Maine was held October 14, 1947, at Rumford, President Chief Curtis Allen of Sanford, Me., presiding.

Sessions were held in the fire station. John Grady, chairman of the Rumford Board of Public Safety welcomed the delegates and his address was responded to by Chief Ken Currie of Mars Hill.

A demonstration of fire prevention facts by Theodore Gunn of the New Hampshire Board of Fire Underwriters created much interest. Attending the demonstration in addition to the delegates were thirty-two students, two teachers from the local high school, and


ANOTHER BARTON-AMERICAN EXCLUSIVE

—Duplex-Multistage, Centrifugal, Midship Mounted—



A Bear for Work

IMPORTANT FEATURES

1. First Duplex-Multistage Pump developed for fire-fighting purposes. 2. The only fire pump with THREE distinct operating characteristics — other two stage pumps have only two operating characteristics. 3. Two independent pumps — breakdown of one pump still leaves one in service. 4. Heavy construction for high pressure "fog" service.

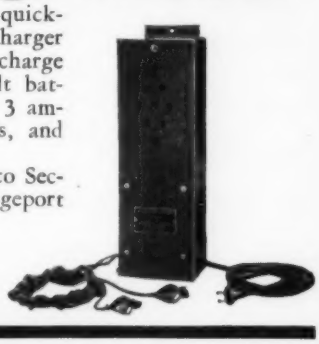
AMERICAN-MARSH
PUMPS, INCORPORATED
BATTLE CREEK, MICHIGAN

WITH AN EASY-TO-USE GE TUNGAR* CHARGER

Your fire trucks will always be ready for quick-action starts if you have an efficient Tungar charger handy. It's a heavy-duty rectifier that can charge one 6-volt battery at 6 amperes, two 6-volt batteries at 3 amperes, or a 12-volt battery at 3 amperes. Just attach clips to battery terminals, and give the battery a boost right in the truck.

We'll gladly send more details. Just write to Section A99-1135, General Electric Company, Bridgeport 2, Connecticut.

*Trade-mark Reg. U.S. Pat Off.



GENERAL ELECTRIC

reporters and photographers. Following the dinner, which was attended by 84, an address on "Small Town Fire Departments" was delivered by Chief John Holden of Newington, N. H.

Officers elected for the ensuing year were: President, Chief R. S. Frates, Bath; vice-president, Z. F. Drouin, Lewiston; secretary and treasurer, R. W. Sturtevant, York Village.

## Traffic Takes Heavy Toll

(*Continued from page* 801)

over a block south of Market street and a passenger on the bus reported hearing it, but twelve other passengers and the driver said they did not hear the siren, or did not hear it until the instant of the crash. The bus driver said the traffic signal was in his favor. However, he was booked for careless driving and failure to give an emergency vehicle the right of way.

Johnson, a veteran of the department, was 56 years old. An investigation was made by Chief Frank Egenreither, who said he believed that the firemen had picked up the radio report of the burglar alarm when nearing the engine house (No. 2) and mistaken it for a fire alarm. Members of Engine 2 reached the scene of the accident soon after it occurred and sent the chief and driver to the hospital where he was pronounced dead.

## Five New York Firemen Hurt Responding to False Alarm

Five firemen and a truck driver were injured at 3:00 P.M., October 23rd, when their pumper, of Engine 225, while responding to what proved to be a false alarm, was struck by a 10-ton oil tanker truck at Glenmore avenue and Barbey street, Brooklyn. Two of the firemen, Robert Herold and Murray Berman, were seriously injured, as was the driver of the oil truck.

Following the accident, in which the tanker was thrown on its side and oil cascaded into the street, fellow firemen quickly flushed down the street and guarded against ignition of the vapors. Had the volatiles flashed, the damage might have been serious.

## Fireman Dies at Wheel

Hurrying to answer an emergency call on September 17th last, a 40-year-old Chevy Chase, Md., fireman collapsed at the wheel of his truck and died less than an hour later.


## Classified Advertisements

*"For Sale," "Proposal" and "Wanted" advertising $5 per inch insertion less 10% for three or more consecutive insertions.*

### WANTED

Sales executive, with background in municipal and industrial Fire equipment and sprinkler sales, to head Industrial Fire Equipment Division of well established organization. Excellent opportunity. Box 45, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

### FOR SALE
### BRAND NEW—PREPAID

3—Gated water thief, chrome trim, $85.00

2—Gated leaderline siamese chrome trim, $30.00

Black rubber coats (Goodrich), sizes 40 to 52 in stock, $13.93 each

Regulation Black ¾ length boots, $11.25

1½" D.J. municipal hose, $1.01 ft.

2½" D.J. municipal hose, $1.56 ft.

Includes rocker lug couplings and tested 400 pounds. New, **not surplus.**

Doray Fire Equipment Co.
1924 Valley Drive, Syracuse, 7, N. Y.
Order to-day.

### ENGINEER WANTED

Nation-wide mutual insurance company wants man for training and supervising field engineers in fire prevention work. Must have rating bureau experience using Dean schedule. Permanent position, requires traveling. Our men know of this ad. Write Box 25, c/o FIRE ENGINEERING, 24 West 40th St., New York 17, New York.

### FOR SALE

MACK, 1000 gallon triple combination pumper with two stage centrifugal fire pump, and all standard equipment, in first class condition, price $2500. Year 1931, situated near New York City. For particulars address, Box 25, Fire Engineering, 24 West 40th St., New York 18, New York.

### FOR SALE

1937 Buick Ambulance. In first class condition—new motor installed 2 months ago. Write or phone: Riviera Beach Volunteer Fire Co., Inc., Pasadena, P. O., Maryland. Phone: Sunset 77-J.

### WANTED

Dealer—Distributors to sell fire apparatus manufactured by well-known Mid-West Factory. Prompt delivery. Attractive proposition. Address Box 30, FIRE ENGINEERING, 24 West 40th St., New York, 18, N. Y.

### FOR SALE—FIRE HOSE

1½ inch Double Jacket Hose, 50-foot lengths. Top brand. Unused Surplus of latest mfg. 400 lbs. test. Absolutely fresh, clean, and late 1945 date. Perfect condition. Price $12.50 per length uncoupled. Any type brass couplings $3.50 extra installed.

HALPRIN SUPPLY CO.
140 E. 2nd St., Los Angeles, 12, Calif.

### FOR SALE

15 lb. CO-2 extinguishers. Unused Surplus. Red color. Leading manufacturer's brands. Fully charged, brass squeeze grip, $25.00 ea. Maryland Mfg. & Eqpt. Co., 1 W. Alleghany Ave., Towson, Balto. 4, Md. Phone Towson 1991.

### FOR SALE

Mechanical Foam (liquid foam)—Made by Nationally known manufacturer. Government surplus. $4.50 per 5 gal. can F.O.B. Philadelphia.

C & L Export Co.
1322 Callohill St., Philadelphia, Pa.

### DEALERS WANTED
### AUTOMATIC FIRE PROTECTION

Wall or ceiling type. Operation positive at 165°—can also be used manually. Pint & Quart Glass Grenades. Free renewals in case of fire. Component parts U.L. approved.

GENERAL MACHINE CO., CAMDEN, N. J.

### FOR SALE
### TELEPHONES

U. S. Signal Corps field telephone units, two units per set. $32.50, used; $35.00, new. Insulated wire, 2¢ per foot. All phones guaranteed. R. S. WILLIAMS CO., 1415 Doana Street, El Monte, California.

### WANTED

Fire Equipment Dealers to sell Morning Pride protected rubber firecoats, fire pants, fire mitts and fire suspenders.

Write today Morning Pride Mfg. Co., 1988 Home Ave., Dayton 7, Ohio.

### FOR SALE

Siamese Y Valves, 2½" N.S. to pr. 1½"... $7.00
Full Coverage Asbestos Fire Suits.....@ $5.00
2½ Gal. Foams, Copper, Used, Inspected @ $6.00
Single Jacket, Fire Hose, 2½ inch, 50 ft.
N.S.T., Unused Surplus .....@$15.00
Unlined Linen, Fire Hose, 2½ inch, 50 ft.
N.S.T., Unused Surplus .....@$10.00

Halprin Supply Co.
140 E. 2nd St., Los Angeles 12, Calif.

### FOR SALE

Fire hose in 50' lengths. 1½" double jacket cotton rubber lined. Price $12.50 per length uncoupled. I.P.T. brass couplings $3.50 per set installed; 400g tested; 1½" single jacket, $11.50 per length; 2½" single jacket, $21.00 per length. 2½" x 50' length unlined linen fire hose, cpld. N.S.T., $9.75 per length; 4" x 10' lengths suction hose, cpld., $9.50 per length; 2½" brass hose nozzles, N.S.T., $2.15 ea. Navy surplus stock, unused in original factory cartons. Top Quality brands. Maryland Mfg. & Eqpt. Company, 1 W. Alleghany Ave., Towson, Baltimore 4, Md., Phone Towson 1991.

### DESIGN ENGINEER WANTED

Well established builder of motor fire apparatus has opening for a design engineer. Good opportunity for the right man. Send details of experience, etc., to Box 40, c/o FIRE ENGINEERING, 24 W. 40th St., New York 18, N. Y.

### DEALERS WANTED

Dry Chemical Fire Extinguishers are in demand for household and automobile protection. Equipment dealers and firemen can profit by selling our popular $3 product. Write for discounts and exclusive territory. Fire-Killer Mfg. Co., 87 Franklin St., Syracuse 1, N. Y.

### FOR SALE

Offers are invited for the purchase of one 1926 American-LaFrance, Type 75, combination pumping engine and hose wagon in good condition. This equipment can be seen at Fire Department Headquarters, Municipal Building, Somerset, Pa. Address all offers or inquiries to Richard Pile, Borough Secretary, Somerset, Pa.

### FOR SALE

500 Gal. Front Mount Fire pumps made by well known manufacturer. Clean unused surplus. Price including 2-10 foot 4 in. suction hose, $250. Frank Shortner, Edgar, Wis.

### DEALERS WANTED

Automatic Fire Extinguishers. Complete line. Best construction. A unit you can sell with confidence. 50% to 60% profit. Freight paid. Free Sales Kit. Red Ball Co., Box 1552, Salt Lake City, Utah.

*We shall appreciate your mentioning* FIRE ENGINEERING *when writing advertisers*

**BODY-GUARD**
**BUNKER SUITS**
**FOR COMFORT & PROTECTION**

WE ARE DISTRIBUTORS FOR
**SIREN BOOTS**
We have been supplying **FIREMEN'S CLOTHING** for over 25 years.
*Any fireman can have a catalog by writing—*
**BODY-GUARD MANUFACTURING CO.**
ST. JOSEPH MISSOURI



**AT EXTREMELY LOW PRICE**

**WELL KNOWN MAKE**
**— PORTABLE —**
**ELECTRIC GENERATOR**
**SKID MOUNTED**

**2500 WATTS A.C.**
**May Be Used for Lights, Tools, Etc.**

**NEW IN ORIGINAL CASE**
**REGULAR PRICE $495.00**
**WHILE THEY LAST $295.00**
**Complete with Replacement Parts**

•

**GORHAM FIRE EQUIPMENT CO.**
**30 INDIA WHARF**
**BOSTON 10, MASS.**


The victim was Charles C. Weitzel. According to Chief Edwin Sackett, who was riding with Weitzel in the front seat at the time, the driver suddenly slumped over the steering wheel, as they were driving to the home of Dr. Otis L. Anderson, where a faulty heating system had flooded the house with oil.

As Weitzel collapsed and began to fall from the truck, Chief Sackett grabbed Weitzel with one hand and the wheel with the other and succeeded in bringing the vehicle to a stop. Death was listed as coronary occlusion.

## News of the Manufacturers

(*Continued from page* 803)

of Directors, together with the four officers.

The Association, which is made up of 18 leading manufacturers of approved fire extinguishers and represents about ninety per cent of the productive capacity of the industry announced that the Union Stop-Fire Corp. of Brooklyn and the Badger Fire Extinguisher Company of Somerville, Mass., had been elected to membership.

## New Appointment at Kidde

Walter Kidde & Company, Inc., of Belleville, N. J., announces the appointment of Stuart Grant as Advertising Manager.

Stuart Grant

Mr. Grant was previously with The Pure Oil Company and served as a Lieutenant Colonel during the war. In addition to his advertising duties, he will aid in sales promotion activities.

## Luke Field

(*Continued from page* 797)

enlisted men and civilian employes have received instructions in the operation of the various types of fire extinguishers and in the safe handling of flammable, volatile liquids. Although over 1,000,000 gallons of high octane gasoline were consumed per month on the flying field, the record shows no gasoline fires during the time. Nine firemen, having received the special classroom instruction in addition to regular departmental drills, were placed in fire chief positions at military installations apart from Luke Field Base.

In emphasizing fire prevention at the field, Chief Murphy was only carrying forward a program that he had developed successfully as Chief in Warren, Ariz., when his department won most of the trophies awarded in that state for fire prevention work.


**BRAXMAR BADGES**

**Standard with firemen for 67 years. We can now supply nickel and chrome badges.**

John O. Veit, Pres.

**C. G. BRAXMAR CO., Inc.**
242 W. 55 Street, New York 19, N. Y.



***Chief---***
**COULD YOU PUT OUT A CHIMNEY FIRE FOR 55¢?**
**YOU CAN WITH IMP**

**CHIMNEY FIRE EXTINGUISHER**

Save rushing to chimney fires over icy pavements . . . avoid slippery ladders and roofs by using IMP Chimney Fire Extinguisher. Just throw a 55c package "as is" on the hottest part of the fire in the stove, furnace or fireplace. The chimney fire will be out in jig-time without water or chemical damage. Recommended by fire chiefs, who always carry IMP in their cars for emergencies. Many volunteers carry it in their personal cars.

*USE THIS COUPON FOR YOUR ORDER*

F. C. FOARD & CO., Bridgeport, Conn.
Please send me ..... dozen packages of IMP. I will honor your bill f.o.b. Bridgeport.
NAME .....
ADDRESS .....
CITY .....
STATE .....

**FIRE EQUIPMENT DISTRIBUTORS ATTENTION**
**Add "IMP" Chimney Fire Extinguisher to your line. Write today for special distributor plan.**

# Chief POWHATAN

REG. U.S. PAT. OFF.

*—is interested in your*

# FIRE EQUIPMENT

*requirements*

WE EARNESTLY REQUEST YOU CHECK THIS LIST—

- Hose Couplings
- Hose Plugs, Hose Caps
- Plain Hose Pipes
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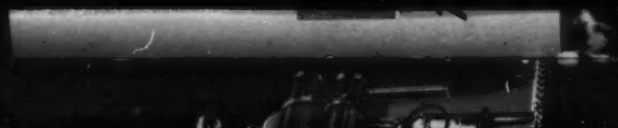
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